AIR CONDITIONING HEATING & REFRIGERATION NEWS
The Newspaper of the Industry
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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Story of the Week
Out of Our Mailbag
Raw Meat Chewed Up
Hazards of the Profession
Your Credit Better Be Good
Football Is An Original American Contribution To 'Culture'

Story of the Week

University of Detroit (a Jesuit institution) enrolled a sturdy football player. At the end of his first season of play the good Fathers called him in for a solemn conference.

"Mike," they told him, "you are a good boy, and we like the way you block and tackle. But let's face it. You simply aren't equipped for collegiate studies.

"Now, Mike, we don't want to blot your future by flunking you. If you'll resign quietly we'll discharge you with passing marks. Afterward, we suggest, get yourself a job as a bricklayer or something."

Following autumn Mike got the football urge again, and enrolled at Villanova, an Augustinian college. Rather quickly the Augustinian Fathers discovered that Mike was no genius.

"Didn't those Jesuits at the U. of D. teach you *anything?*" they harassed him.

"Yes," he nettled. "I learned that Martin Luther was an Augustinian."

Out of Our Mailbag

Lamport, Fox, Prell & Dolk
Advertising Agency
South Bend, Ind.

"Inside Dope":

Reading the following page headings one after the other, while flipping pages in the current MOTOR BOATING, gave me a chuckle:

BOAT WIVES' EXCHANGE
SAILS ON NORFOLK
BROADS

Say, it's about time for football stories again, isn't it?

CLEM B. HAINES,
Vice President-Secretary

Thanks for the nudge, Clem. Here you are; and here we go:

Raw Meat Chewed Up

"I won't mention the name of this particular team we were playing," reminisces Red Grange, "but at half time we came in, pulled off our socks, and began putting iodine on the teeth marks in our legs.

(Concluded on Page 8, Col. 1)

CRMA To Cooperate with AFDOUS Despite Some Differences of Opinion on Code

CHICAGO — The Commercial Refrigerator Manufacturers Association will cooperate fully with the Association of Food & Drug Officials (AFDOUS) as an agency interested in assuring the consumer of a better quality product, although CRMA is not fully in accord as to the need for new legislation designed to maintain quality of frozen foods, which AFDOUS is proposing. The Drug officials are proposing a frozen food code.

Following the presentation of a detailed report from the Frozen Food Equipment Committee on the proposed AFDOUS frozen food handling code, CRMA approved the committee's recommendation that the association cooperate fully with the agency and welcome the new AFDOUS program as helpful new partner in the industry's own efforts to improve both the quality and variety of

(Concluded on Page 21, Col. 1)

Salesmanship
Is It Missing from Air Conditioning Dictionary?

JACKSON, Mich. — There's one word that's missing in the Dictionary of Air Conditioning. To wit:

Salesmanship.

Painfully aware of this omission, the top brass of Acme Industries conducted a unique convention here Oct. 19, 20, and 21. Unique, in that it was devoted exclusively to the art of selling.

Here is how they break down the "art" as applied to air con-

(Concluded on Page 4, Col. 2)

Airtemp Bows Broadest Line Of Room Units
16 New Items Set for Home, Commercial Lines

DAYTON — Broadest line of room air conditioners in this company's history, and 16 new products in its line of residential and commercial heating and air conditioning equipment make the news in the 1960 lines being introduced by the Airtemp Div., Chrysler Corp.

The 29 room air conditioners in four series range from 1 to 2½ hp. in size, with B.t.u. ratings ranging from 6,000 for the smallest casement model to 22,500 for the 2½-hp. "Power King" model.

Featured among the 16 new products in other air conditioning lines are a new 3-hp. packaged heat pump, and a 5-hp. split-system heat pump. Also new are commercial water-cooled package units in the 22-32 ton range.

Other additions to the cooling line include 2½-hp. and 4-hp. units for both package and spit-system applications in residential and commercial applications.

Several improvements and modifications have also been made in the smaller "horizontal" type package units, it was stated. In the home heating line, new products are gas-fired lowboy models in color combinations, and designed for the easy addition of cooling and complete air cleaning and purification equipment.

Theme of Airtemp's plans for 1960 is "Go for 2" which means the company and its field organization will be shooting to double its present performance —in sales volume, number of outlets handling Airtemp products, and in all things that mean growth in an organization.

In addressing the distributor meeting at which new products and plans were introduced, Airtemp Vice President and Sales Manager Joseph B. Ogden described the progress that had been made in the year's time

(Concluded on Page 27, Col. 1)

Unitary Air Conditioner Sales Up 39%

WASHINGTON, D. C.—First release from ARI's Unitary Air Conditioner Section under its new policy of releasing manufacturer's quarterly shipment figures shows unitary air conditioner sales up 39% over 1958 in the first six months of 1959.

The release covers shipments of all types of unitary air conditioners by size and type. Included are self-contained, remote condenser, refrigeration chassis, year-round, heat pumps, and split system units. Unit sizes are reported by B.t.u.-per-hour capacity in accordance with ARI Standards 210-57 and 250-58.

Figures in these releases have long been sought by everyone concerned with the distribution of air conditioners and should prove an invaluable aid to each dealer and distributor in gauging his own market.

The figures were compiled by ARI in cooperation with the National Warm Air Heating & Air Conditioning Association.

Leaders in the sales increase

(Concluded on Back Page, Col. 2)

BEHIND PAGE ONE . . .

COMMERCIAL Air Conditioning
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Perfection To Bow 5 New Models

CLEVELAND — Five completely new models added to the 1960 Perfection line of central residential and commercial air conditioners and heat pumps will be among the self-contained and remote units previewed at the Tides hotel, Redington Beach, Fla., by Perfection Industries, division of Hupp Corp., Oct. 26-27.

More than 100 Perfection air conditioning and heat pump distributors and district managers from all parts of the country are expected to attend.

Engineering and styling changes have been made in all 12 models of the 1960 line, according to Carl W. Millsom, vice

(Concluded on Back Page, Col. 5)

200 To Exhibit In Atlantic City

ATLANTIC CITY, N. J. — Some 200 exhibitors will be displaying new products for application in the field at the 11th Exposition of the Air Conditioning and Refrigeration Industry, which opens Monday, Nov. 2, and continues through Thursday, Nov. 5.

The Exposition is open to all who have a legitimate interest in the industry's products—

(Concluded on Page 4, Col. 1)

Steel Shortage Will Get Worse Before It Gets Better, Manufacturers Report

DETROIT—The steel strike is beginning to hurt the air conditioning and refrigeration industry and things will get worse before they get better, reports indicate.

Sheldon Coleman, president of Coleman Co., announced that his company will shut down production in its Wichita, Kan. plants Nov. 13. If steel workers return to their jobs this week, the plants could reopen Nov. 30, he indicated. But the longer the steel workers stay out the longer the plants will remain closed.

General Electric Co. has already started furloughing workers in the refrigeration department at Appliance Park, Louisville, Ky. and by the end of the month will have 3,700 employes out.

Usual fall pick up in business for Bohn Aluminum & Brass Corp. did not materialize this year, reports Terry W. Kuhn, president. Each day the steel strike continues, it hurts more, though the effect is still not drastic, he added.

He said that his company expects to increase its share of business in the air conditioning and refrigeration market next year.

Paul Augenstein, president of Chrysler Airtemp, said his company has not had any lay-offs yet, but they could come in November or December even if the

(Concluded on Back Page, Col. 1)

Midland-Ross Negotiating To Purchase Surface Combustion

CLEVELAND — Negotiations are in progress for the acquisition on a cash basis of Surface Combustion Corp., parent of the Janitrol Heating & Air Conditioning Div., by Midland-Ross Corp. of Cleveland, it was disclosed last week.

Wade N. Harris, president of Midland-Ross, and Henry M. Heyn, president of Surface Combustion, in a joint statement confirmed that these discussions have been under way for several weeks.

"Certain details must be arranged before any final agreement can be reached," they stated. "It is now anticipated that these details will be worked out by the middle of November. For the present, this is all that can be said about our negotiations."

Midland-Ross is a leading pro-

(Concluded on Back Page, Col. 1)

Robert Nelson Award To Recognize Field Sales Engineers Announced by AAF

LOUISVILLE, Ky. — An annual award to recognize outstanding young field sales engineers has been announced by American Air Filter Co.

The Robert W. Nelson memorial award is being instituted in memory of the former vice president of AAF, by members of his family. Nelson, who died last October, was well known for his contributions to the firm's sales and marketing organization and the air handling industry, it was pointed out.

In announcing the program, AAF President W. G. Frank declared that the award will be presented each year to the young field sales engineer who is "adjudged as having best combined initiative, product knowledge, and sound selling practices in promoting the sale and acceptance of AAF products to the maximum benefit of both the customers and the company."

Eligible will be AAF field sales engineers who have not reached their 32nd birthday during the fiscal year; shall have been employed either in a branch office or one of AAF's sales representative organizations during the entire fiscal year; and has been responsible for selling one or more products of AAF's complete line of products.

Winner of the award will receive an individual plaque for his possession and ten shares of AAF common stock. A permanent plaque, on which the name of each year's winner will be engraved, will be displayed in the firm's home office in Louisville.

The final selection of the individual for the award will be made from among the nominations by a committee made up of the director of marketing, manager of field sales administration, and each of the product division managers, according to the announcement.

Richard H. Weber Heads Consolidated Industries

LAFAYETTE, Ind.—Richard H. Weber, formerly vice president and sales manager of Consolidated Industries Corp., was elected president at a meeting of the board of directors, according to the announcement.

Consolidated Industries, manufacturer of furnaces, is a subsidiary of Welbilt Corp., Maspeth, N. Y.

NEMA Room Air Conditioner Section Officers

OFFICERS of the Room Air Conditioner Section of the National Electrical Manufacturers Association elected for the ensuing year are from left to right: C. W. Paulson, manager, Room Air Conditioner Dept., Westinghouse Electric Corp., chairman; T. H. Ford, assistant to the executive vice president, Fedders Corp., vice chairman; J. B. Ogden, vice president of sales, Airtemp Div., Chrysler Corp., section representative on the proposed new NEMA Consumer Products Div. board of directors; and R. H. Meyerhaus, director of engineering, Fedders Corp., chairman of the section's General Engineering Committee.

NEW YORK CITY — C. W. Paulson, manager, Room Air Conditioner Dept., Westinghouse Electric Corp., has been elected chairman of the Room Air-Conditioner Section of the National Electrical Manufacturers Association.

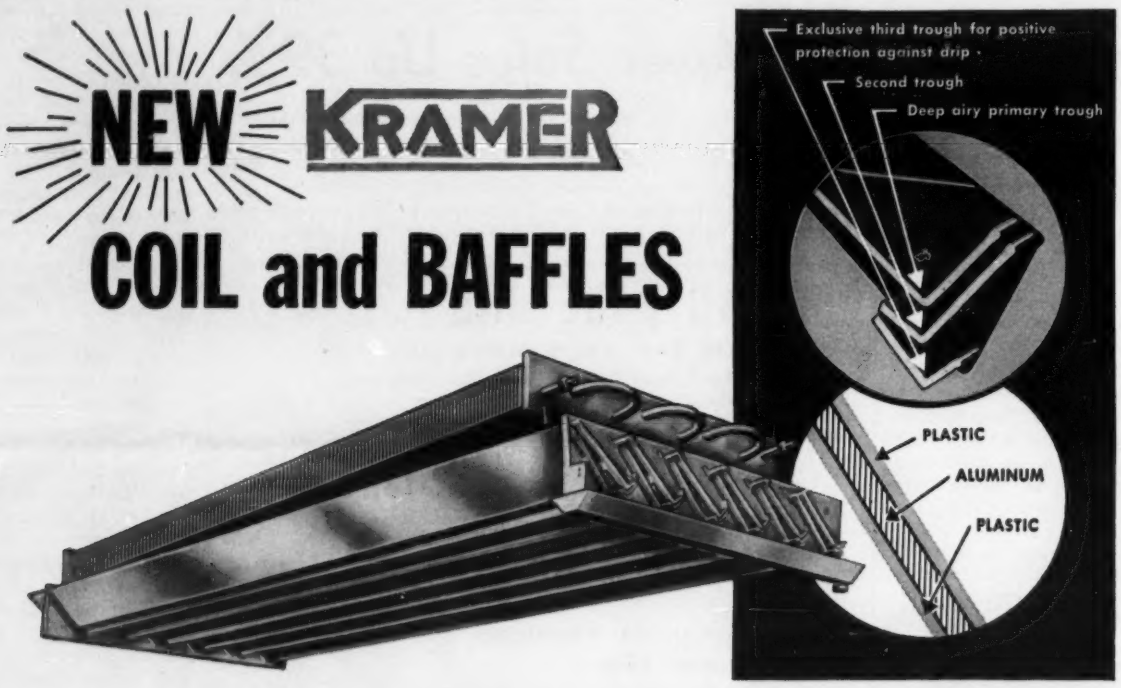
He succeeds J. B. Ogden, vice president of sales, Airtemp Div., Chrysler Corp., who has been named to represent the section on the board of directors of the proposed NEMA Consumer Products Div.

T. H. Ford, assistant to the executive vice president of Fedders Corp., has been elected vice chairman of the section.

R. H. Meyerhaus, director of engineering of Fedders, has been named chairman of the section's General Engineering Committee.

NEW KRAMER

COIL and BAFFLES



with attractive lifetime
PLASTIC CLAD ALUMINUM
at no extra cost!

Permanently Attractive Baffle—Constructed of a new plastic-clad aluminum which combines the strength and flexibility of aluminum with corrosion-resistant plastic for lifetime beauty. It will not chip, peel, corrode, sag, fade nor get brittle. It is absolutely odorless and sanitary. The coil with its colorful baffle will retain its attractive appearance for the life of the cooler.

Dripless Triple-Trough Design—The triple-trough—a unique Kramer feature—provides a deeper primary trough for unrestricted draftless circulation of cool air. The narrow third trough reduces dripping to a minimum, making the Kramer triple-trough baffle virtually drip-proof.

Easy to Install—Kramer coil and baffle combinations are completely assembled at the factory. Shipped in closed wooden cases, they arrive on the job clean and ready for installation, saving assembly and installation time.

Immediate Shipment—A complete range of 15 carefully selected sizes giving maximum Btu per dollar for every application are carried in stock for immediate shipment. Both left-hand and right-hand baffles are available.

WRITE FOR BULLETIN CBC-276C

KRAMER TRENTON CO. • Trenton 5, N.J.

44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

W.W. Anderson, Sr., Bundy Tubing Pres., Dies after Operation

DETROIT—Wendell W. Anderson, Sr., president of Bundy Tubing Co., died in Temple University hospital in Philadelphia Oct. 20 following an operation for cancer of the larynx.

Anderson, who was 58 years old, had been president of Bundy since 1929. Prior to that time he had promoted Bundy through his own investment banking firm.

Beyond his business interest, Anderson was active in philanthropy, sports, and public affairs. He was a former chairman of Detroit's United Foundation fund raising activity, a yachtsman whose boat "Escapade" held the record for the Port Huron to Mackinac sailing race on Lake Huron, and defense administrator under the United States Ambassador to NATO in 1954 and 1955.

Anderson is survived by his wife, Kathryn, sons John W. and Wendell W., Jr., a daughter, seven grandchildren, and a sister. Wendell, Jr. is vice president and general manager of Bundy.

Hempel, Bowen Join Cobell Industries

CLEBURNE, Texas — R. E. Hempel and Leon Bowen have joined the engineering department of Cobell Industries, Inc. here, manufacturer of "Rangaire" commercial and residential central air conditioning systems.

Hempel was named chief engineer and Bowen took over the post of project engineer. Both men are working on design, development, and testing of air conditioning and heat pumps.

Prior to joining Cobell, Hempel was with Convair, Fort Worth as design engineer on ground air conditioning and power units for the B-58 program. Bowen was with another air conditioning manufacturer.

Airtemp Realigns Packaged Heating, Cooling Dept.

DAYTON — Realignment of the Packaged Heating & Cooling Dept. of Chrysler Airtemp to include personnel and responsibilities of the Distribution Dept. was announced by J. B. Ogden, vice president-sales.

W. Fitch

Packaged Heating & Cooling, which controls all Chrysler Airtemp activities except room units and large applied machinery installations, will be headed by Warren Fitch with the title of manager-marketing, Ogden said.

Fitch formerly was director of distribution. He succeeds Sydney Anderson, former general manager of Packaged Heating & Cooling, whose next assignment will be announced shortly, Ogden said.

Working directly under Fitch will be Ralph J. Link as sales manager. He had been product planner, residential units, for the department, according to the announcement.

Geiser, Facius, Klein Appointed To B.A.C. Posts

BALTIMORE—John Engalitcheff, Jr., president of Baltimore Aircoil Co., Inc., has announced the appointments of W. Donald Geiser as production manager, George E. Klein as assistant production manager, and Thomas F. Facius as chief engineer.

W. D. Geiser

T. F. Facius

G. E. Klein

The three appointments are expected greatly to strengthen management at Baltimore Aircoil.

For over 10 years, Geiser was a development engineer with York Div. of Borg-Warner Corp. For the past two years he has been chief design engineer at B.A.C.

Klein has held several important jobs at B.A.C. since 1953 including purchasing agent, traffic manager, and production coordinator.

Facius was a test engineer for General Electric Co. for a year and then served two years with the Armed Forces as a mechanical engineer in air conditioning and refrigeration design. Following his tour of duty, he spent a year with York Corp. and then joined B.A.C. in 1955 as a research engineer.

National Better Heating-Cooling Council Will Meet In New York Dec. 8-10

NEW YORK CITY — Fourth annual meeting of the national Better Heating-Cooling Council will be held Dec. 8-10 at the Sheraton-East hotel here, it was announced recently.

BHC reported that its 1960 program will be mapped out at the meeting "to advance one of the industry's immediate promotional goals—a larger share of the heating market in all types of construction during the boom of the next decade."

In addition to planning for a "united industry" hydronics campaign, the council membership will hear reports and results of all BHC operations, including the activities of the recently-organized Commercial & Industrial Div., it was noted.

Nationally prominent guest speakers, including Irvin L. Rechkemmer, president of the National Association of Plumbing Contractors, will address the BHC membership. The general theme will be the "Hydronics Industry United."

A special feature of the meeting will be a workshop session for advertising and sales promotion executives of BHC member companies.

The session will include a demonstration on the use of BHC sales tools and special promotions, showing how they can be applied to company products to produce bigger sales.

There will also be an all-day workshop session on local council operations for the officers and executive directors of all local BHC's.

Cooling, Heating, Sheet Metal Men

2 Detroit Factions Taking Steps Toward Forming New Association

DETROIT — First steps toward formation of a new air conditioning, heating, and sheet metal association in Detroit were taken recently by members of the present Air Conditioning Institute and an "independent" group of contractors.

Common ground is that both groups back the Better Heating & Cooling Bureau, which is attempting to upgrade heating installations here, and both deal with the same Sheet Metal Workers local.

As a further attractions to the independents, the Air Conditioning Institute has agreed to disband when the new group is finally organized. The independents then will have a stronger voice in the organization and operation of the new group than if they had merely come into the institute, which, apparently, they had resisted doing.

A recent meeting of the two groups selected an 11-man nominating committee whose job is to select a board of directors. The board will then select officers, suggest names for the organization, and work out the organizational details.

There are six members in ACI and five independents on the nominating committee.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

SOME ANACONDA "FIRSTS" THAT HELP CUT COSTS IN AIR CONDITIONING AND REFRIGERATION

"Tri-Wall Pak" on pallet carrying bunch coils of copper refrigeration tube ⅝" O.D. x .022" gage in lengths 700 to 750 feet long. Note ease of stacking and ready access to coils. Empty cartons are simply folded flat for compact disposal.

Disposable reel carrying 700-foot coil of copper refrigeration tube ⅝" O.D. x .025" gage. Net weight of tube, 124 lb., weight of reel, 12 lb. Disposable reels are furnished in a number of sizes —eliminate returns and bookkeeping on empties.

In the pictures above you see two examples of Anaconda "firsts" that are helping the refrigeration and air-conditioning industry cut costs and improve the efficiency of their equipment.

LONG COILS: Anaconda was the first to provide refrigeration-quality seamless copper tube from .032" to ¾" O.D. and various wall thicknesses in unjointed lengths up to 5,000 feet, depending on size. Coiled tube is furnished in level-wound, bunch, pancake, or semipancake coils to fit individual needs. Level-wound coils can be supplied on disposable reels.

Long coils have many advantages. They provide uniform O.D. and wall thickness for automatic finning . . . save set-up and threading time . . . produce a minimum of scrap ends, and frequently eliminate the need of a standby operator. When changes are made in model design, long coils in stock make change-over in lengths easy and economical.

SPECIAL PACKAGES: Anaconda Copper Refrigeration Tube is shipped in a number of specially designed packages to protect the tube in shipment and handling, to provide compact storage, and to permit high-speed unwinding on automatic continuous-feed fabricating equipment. These include lightweight, sturdy, disposable reels that end returns and bookkeeping on empties. And the "Tri-Wall Pak" makes for compact, safe inventory storage and easy access to individual coils.

Whether your requirements for refrigeration tube are standard or special, Anaconda can provide the size of tube and coil that will satisfy your needs best, packaged to meet your stock room and fabricating requirements most economically. For further information, write: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

6927

ANACONDA®

SEAMLESS COPPER TUBE FOR REFRIGERATION AND AIR CONDITIONING

Made by The American Brass Company

200 Exhibitors--

(Concluded from Page 1, Col. 2)

whether they buy, sell, install, service, or specify them. For those who plan to attend but have not yet made arrangements for accommodations, hotel and motel accommodations in all price ranges remain available.

On Nov. 2, the opening day, the Exposition doors will open at 2 p.m. On other days, opening time will be 10 a.m. The Air-Conditioning & Refrigeration Institute, sponsor of the Exposition, is holding a special conference, open to all attending the Show, at 9:30 a.m. Tuesday, Nov. 3 on the stage of Convention Hall.

At this Conference there will be a panel of five authorities representing major buying areas for the industry's equipment, who will discuss their needs and the general market conditions.

Salesmanship and Air Conditioning--

(Concluded from Page 1, Col. 5)

ditioning:

1. Professional salesmen and how they should sell.
2. The role of the Owner, the Architect, the Engineer, and the Contractor.
3. Sales presentations and proposals—how to make them more effective.
4. How the salesman should use advertising and sales promotion materials.
5. The importance of using the company's financial and public relations information more effectively.
6. How to select salesmen—the role of the professional consultant.

These subjects were discussed fully in classroom seminars.

"Professors" in these classroom seminars included Acme's R. C. Robertson, Pete Weatherwax, and Wayne Merrell; Bob Kilgore of Gray and Kilgore; Stan Loring of the S. T. Loring Co.; and Dr. Richard Nordlund, consulting psychologist.

However, the "professors" did not dominate the classroom. Crossfire amongst the salesmen themselves provided the stimulation and the education.

Following the thrashing out of individual, on-the-spot, sales problems in the seminars, everybody moved out to the Jackson Country Club where they met with a group of four "outside experts."

These latter were:

1. Carl Giffels of Giffels & Rossetti, representing the Architect.
2. W. M. Robinson of Bryant and Detwiler, representing the Engineer and the Contractor.
3. William Zumbiel of the Kroger grocery chain, representing the Owner.
4. George Taubeneck of AIR CONDITIONING, HEATING & REFRIGERATION NEWS, representing Competitors and the General Public.

These men were given the unwelcome task of trying to tell these salesmen what they were doing wrong, and how to rectify their mistakes.

Arrayed against them, on the other side of the panel table, were Acme's five top salesmen for 1959:

Marvin Potter of Washington, D. C.

Bob Rice of Salt Lake City, Utah.

Bob Caron of Lubbock, Texas.

Olen J. Hill of Louisville, Ky.

E. Glenn Breeden of Richmond, Va.

This was one "quiz show" that wasn't fixed. The five star salesmen hit the four "outside experts" with everything but a cooling tower—to the vast enjoyment of the audience.

Agreement all around, finally, was achieved on one point:

The salesman should Know More—about his products, his profession, his competitors, his customers and their business operations.

Acme Reports 20% Rise In Net Sales for Fiscal '59

JACKSON, Mich. — A 20% increase in net sales for the fiscal year 1959 has been reported by Acme Industries, Inc. Acme's fiscal year ended July 31.

K. A. Weatherwax, president, announced in his annual report to stockholders that net sales of $9,521,938 in 1959 were highest in the company's 40-year history and compare with total net sales of $7,967,525 in the previous fiscal year.

He reported that net profit for 1959 was $351,766 as against $291,323 in 1958.

"Our 1959 net profit is exceeded only by our 1956 profit record when the figure stood at $384,761," he said.

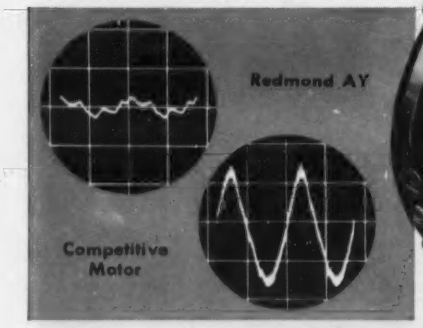
After provision for Federal taxes on income, Acme Industries' earnings for the fiscal year 1959 were equivalent to 88 cents per share on the common shares outstanding at the end of the 12-month period. In contrast, 1958 earnings were equivalent to 73 cents per share on common shares outstanding.

Weatherwax said that in addition to quarterly dividends totalling 20 cents per share paid during the fiscal year just ended, stockholders also received a dividend of 5% in common shares paid Feb. 25, 1959.

"The stock dividend reflects Acme Industries' continuing expansion, the reinvestment of earnings in the business, and implementation of the company's new concept of extending our market to include the manufacture and sales of complete air conditioning systems."

YOU CAN SEE THE DIFFERENCE

These actual photographs of the oscilloscope screen show the reduction of vibration in the blower when the Redmond Type AY MicroMotor is used. The photo at the left shows blower vibration with The Redmond AY; the one at the right shows vibration with a competitive motor.



YOU CAN HEAR THE DIFFERENCE

Place a mechanic's stethoscope on the end cap and you can easily hear the difference between the newly designed Redmond Type AY and motors of conventional design. Try it on a Redmond 1/6 hp—the noise level is about that of a 1/35 hp motor of conventional design.

QUIETEST

DIRECT DRIVE BLOWER MOTOR

Redmond TYPE AY

NEW DESIGN REDUCES BLOWER VIBRATION TO ONE-FIFTH THAT OF UNITS USING CONVENTIONAL SHADED-POLE MOTORS

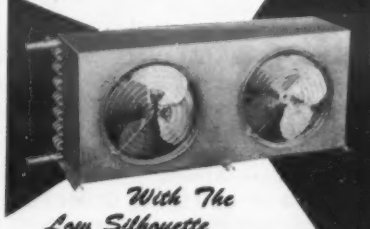
The Motor That Gives You Satisfied Customers

When you replace direct drive blower motors with this new Redmond motor, you solve the problem of vibration noise—it reduces vibration on the blower housing to one-fifth that of units using conventional shaded-pole motors—cuts down what is the basic source of nearly all noise problems. The Type AY is designed and manufactured in every way to give years of whisper-quiet, trouble-free service—it is your guarantee of customer satisfaction.

Redmond DISTRIBUTORS DIVISION REDMOND COMPANY, INC., OWOSSO, MICHIGAN

See the Yellow Pages of Your Telephone Directory for Your Local Redmond Distributor

WITT REMOTE AIR COOLED CONDENSERS



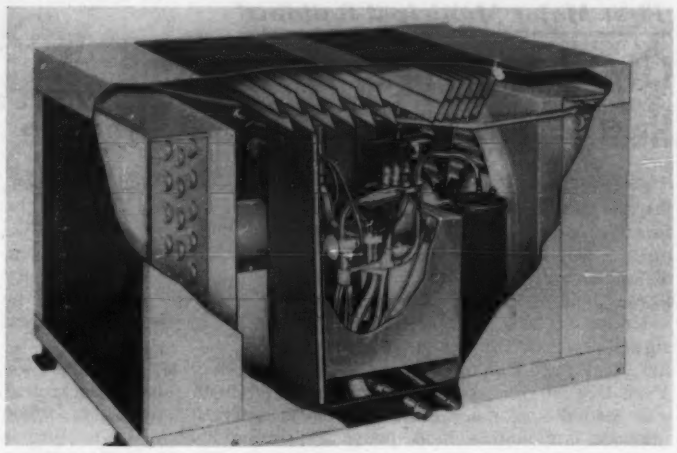
With The Low Silhouette

Efficiency, economy, dependability—those three words most effectively describe the operation of Witt Air Cooled Condensers. Available in a wide range of centrifugal blower and fan type models, for single or multiple compressor installations, for indoor or outdoor applications, you'll find a Witt Air Cooled Condenser to handle any size air conditioning or refrigeration system. Winter control systems available for low temperature areas—multiple circuiting available at no additional charge.

Write For Complete Witt Catalog

A. H. WITT COMPANY, INC.

940 N. Sycamore Ave., Los Angeles 38, Calif.



REMOTE OUTDOOR COMPRESSOR (Type 318) of Mueller Climatrol's new heat pump available in 3 and 5 hp.

* * *

Mueller Climatrol Bows Remote Heat Pump In 3 and 5 Hp. Models

MILWAUKEE — Mueller Climatrol has announced a new remote air-to-air heat pump in 3 and 5-hp. models.

The new heat pumps consist of a remote outdoor compressor assembly (Type 318) and an indoor coil and air handling unit (Type 317). The indoor air handling unit can be operated with or without a duct system.

"The outdoor unit is fully weather-protected against the elements for installation in any climate," the company said.

"The indoor unit can be suspended almost anywhere — in basements, attics, and crawl spaces.

"Supplementary electric resistance heating packages (Type 316) can be used with the heat pumps. Careful evaluation of the heating requirements of the home are necessary to determine the supplementary heating needs.

"The packages are available in 8 and 12 kw heating capacities which deliver 27,280 and 40,920 B.t.u. per hour. The heating elements are sequenced through a control panel which energizes the elements in 4 k.w. increments.

Chart of capacity:

Model No.	Heating Capacity* Btu./Hr.	Cooling Capacity† Btu/Hr.
317/318-3	37,500	34,000
317/318/5	60,500	56,000

*Tested at 45° F. d.b. and 42.9° F. w.b. outside air with 70° F. d.b. inside air.

†Tested at ASRE conditions of 95° F. d.b. and 75° F. w.b. outside air with 80° F. d.b. and 67° F. w.b. inside air.

Outside Weather Design Conditions Being Studied by Sacramento ASHRAE

SACRAMENTO, Calif.—Dry-bulb and wet-bulb temperature and humidity data from hygrometers in four locations will be evaluated in October by the Research Committee of the Sacramento Valley Chapter here, American Society of Heating, Refrigerating & Air-Conditioning Engineers.

Purpose of the committee is to establish, by a two-year study, outside weather design conditions for heating and cooling estimates.

These design conditions are to be established for 52 locations in central and northern California, including central valley, mother lode, and mountain points but not the north cost area nor coast range.

The four hygrometers were put in place June 1, and were removed Sept. 30 from locations including a fire station in Elk Grove, a weather station at Lodi, and a fire station at Florin. The first hygrometer placed at a service station in Galt was stolen.

Purpose of the hygrometer pilot study this summer was to ascertain personnel problems in recording data, and obtain preliminary readings.

The Research Committee will set up recording equipment at any of the 52 locations where weather data is not being recorded.

Forms have already been sent out to ASHRAE members in the area, and to others in the industry in the area, asking for outside weather design conditions commonly used for heating and cooling estimates.

These forms ask for: elevation, summer outside dry bulb, summer outside wet bulb, wind direction, wind speed, ground water temperature, city water temperature, winter outside dry bulb, wind direction wind speed, and sources of this data.

Remarks are also asked for on water quality, analysis of water in terms of carbonates and other solids.

Members of the Research Committee are Daniel K. Coyle, chairman, consulting mechanical engineer; Richard E. Stockwell, secretary, engineering faculty at Sacramento City college; James A. White, Jr., E. C. Cooley Co.; Vern Thornburg, mechanical engineer, state division of architecture; and Robert M. Snyder of Stockton, consulting mechanical engineer.

Students of refrigeration and air conditioning in the mechanical technology curriculum at Sacramento City college will assist in compiling data.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

AT THE A.R.I.

— YOU'LL SEE —

THE BIGGEST SHOW ON EARTH

of

MARLEY

☆ REFRIGERANT-TO-AIR ☆

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WATER-TO-AIR

PACKAGED COOLING PRODUCTS

. . . including such outstanding performers as

THE DRICOOLER®

THE AQUACOOLER®

THE PERMATOWER®

THE AQUATOWER®

ALL THIS—AND MORE—IN

BOOTH 149-150

at the

A.R.I. EXPOSITION

ATLANTIC CITY, NOVEMBER 2-5

The Marley Company

Kansas City, Missouri

Gibson Convention Orders Double '58

GREENVILLE, Mich. — Air conditioning orders at the recent convention of Gibson Refrigeration Co., a division of Hupp Corp., were double last year's convention orders, according to J. F. Klintworth, manager of air conditioner sales.

Some dealers felt that the impending change in the Federal excise tax on cooling units and the growing shortages of steel were important reasons for buying units early. However, more dealers expressed intent to actively promote air conditioning much earlier this year than ever before, and felt the need for merchandise much sooner, it was stated.

In many cases, dealers in the northern states said they plan to begin promoting air conditioners as early as December.

Gibson's new model 71-S air conditioner with automatic "Air Sweep" accounted for more than two thirds of the air conditioners ordered by the dealers. The 71-S is described as "a plug-in type unit that generally can be carried home and installed without special wiring."

Kelvinator Reports Sales For August Jumped 45%

DETROIT—Kelvinator major appliance sales in August jumped nearly 45% over August of last year, according to H. L. Travis, vice president-sales.

Refrigerators, a consistent leader along with laundry equipment, were up 50% over August of last year.

Anemostat Names Wm. F. Peters

NEW YORK CITY—Appointment of William F. Peters as general sales manager has been announced by Anemostat Corp. of America.

W. F. Peters

Peters rejoins Anemostat after serving as New York branch manager for the American Air Filter Co. Anemostat manufactures air diffusers for all types of air distribution systems.

Prior to his association with American Air Filter, Peters held various positions with Anemostat since first joining the company in 1945 as a research engineer, according to the announcement.

'First Major Municipal Building'

City of Springfield, Ill. To Install Heat Pumps In New 3-Story Structure

SPRINGFIELD, Ill. — The first major municipal building in the country to use heat pumps for year-round air conditioning will be constructed in Springfield.

Under terms of contracts signed by the Springfield Public Building Commission, the York Div. of Borg-Warner Corp. will provide a compound-compression air source heat pump system.

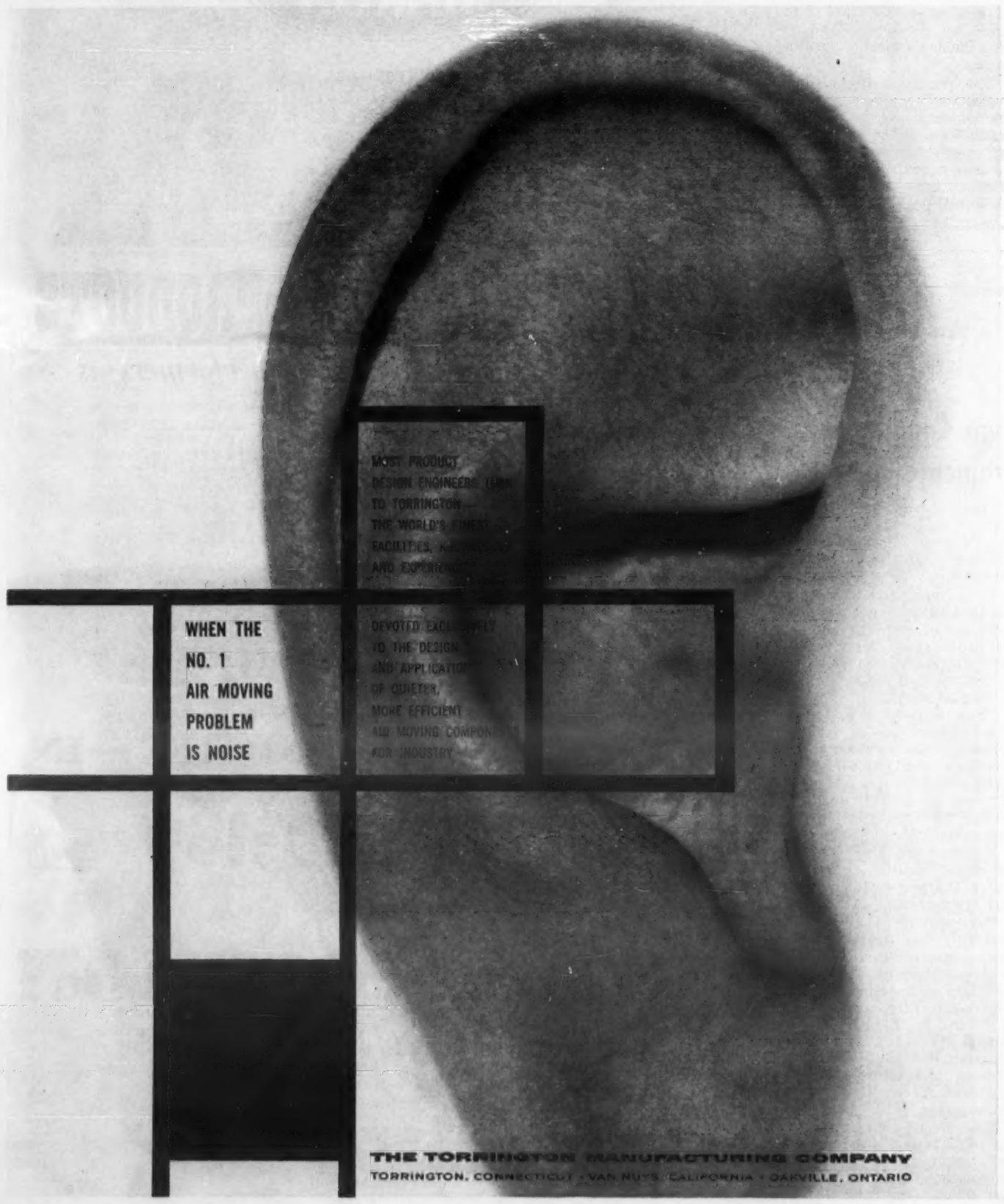
Springfield's new three-story Municipal building was designed by Trutter and Turley Associated, Springfield architect and engineer. Containing approximately 70,000 sq. ft. of floor space, the modern structure will cost $2,250,000 and is scheduled for completion before the end of 1960.

The York heat pump system, using some 200 hp. of electricity to run the equipment, will be located in a penthouse engine room.

Two identical factory assembled heat pump "packages" will operate together when maximum heating or cooling is required. Simultaneous heating and cooling for different zones within the building will be available any time during the year.

Individual areas around the building perimeter will be conditioned by fan-coil air conditioning units. Central multi-zone air handling units will be used to condition the building's interior.

The entire heating and cooling system will be operated automatically, switching from heating to cooling as required by thermostat demands. Complete maintenance of the heat pump system will be provided by York under a certified maintenance contract.



Main Hospital at Walter Reed Gets Year-Round System

WASHINGTON, D. C. — A year-round air conditioning system has been installed in the main hospital of Walter Reed Army Medical Center here.

To comfort conditions the three floors and basement of the famed medical facility, approximately 60 units of Marlo air conditioning equipment were used, including 12 ceiling and floor type central station units, 20 multi-zone units, seven spray type dehumidifiers, and a variety of pre-heat, reheat, cooling, and booster coils.

The project was under the U. S. Engineers, with Norair Engineering Corp. as general and mechanical contractor and William A. Brown as mechanical engineer.

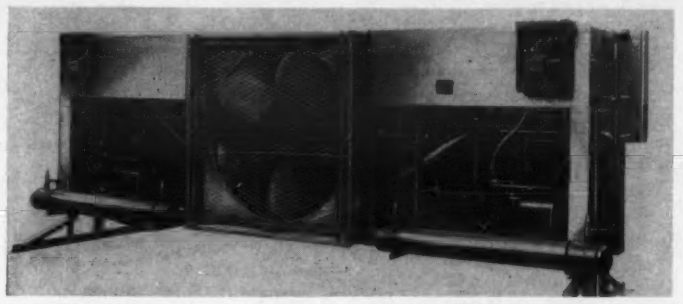
Westinghouse Cooling Holds Conference for Field Sales Engineers

STAUNTON, Va. — The annual training and planning conference for Westinghouse Air Conditioning field sales engineers was held at the company's plant here Oct. 1-3.

The basic purpose of the conference was to acquaint the selling organization with the 1960 marketing objectives of the division and to review the 1960 line of products that will be introduced early in November, it was pointed out.

Hosts for the session were Raymond K. Serfass, division general manager, and Donald Meckstroth, manager of marketing. Part of the sessions was devoted to discussions of the 1960 distributor sales conference which will be held at the Staunton plant in November.

Kramer Trenton Air Conditioning Highside Is Shipped Ready To Use



"UCON COMPRESSOR" is said to be a complete air conditioning highside, factory assembled, tested, and running unit.

TRENTON, N. J. — Kramer Trenton Co. has announced the availability of its "Unicon-Compressor," a complete air conditioning highside, factory assembled, tested and running unit, designed for outdoor installation.

"Fully protected from the weather, it can be readily installed on the roof, ground, or any place where there is ample supply of air," the company explained. "The complete highside is shipped ready to operate, requiring only an electrical supply and a few simple connections between the Unicon-Compressor and the evaporator. Factory testing eliminates costly field problems.

"Since the opening of the access panel will cause the air to by-pass the condensing coil, it is difficult to obtain true system operating conditions with the access panel open.

"To overcome this problem, the Kramer Unicon-Compressor has all standard servicing components accessible on the outside of the unit. This includes electrical controls, pressure gauge valves for suction and discharge, receiver inlet and outlet valves, purge valve, and liquid sight glass.

"For cooling during cold weather when the ambient temperature at the Unicon is below 60°, the Unicon-Compressor can be furnished with a built-in Kramer 'Winterstat' to control receiver pressure and assure proper operation of the equipment at any time of the day or year.

"Unusually quiet, the Unicon-Compressor with its low silhouette and aluminum casing can be attractively blended into any architectural treatment," it was stated.

Advance Bulletin No. 460 is available by writing to the company offices here. The bulletin lists all components, specifications, and nominal ratings, according to the announcement.

Seton Name Plate Moves To Larger Quarters

NEW HAVEN, Conn. — A move to larger quarters was made recently by Seton Name Plate Co.

New address of the company is 50 Fitch St., New Haven 15, Conn.

Its telephone number has been changed to FUlton 9-9581.

President F. A. Seton reports that the move was made in order to enlarge production facilities for the increasing number of engraving orders which the company is handling for the refrigeration and air conditioning trades.

Earl W. Ford Retires As Carrier District Rep.

SYRACUSE, N. Y.—Earl W. Ford has retired after 14 years as district representative in Rochester for the Unitary Equipment Div. of Carrier Corp.

Carrier friends and dealers recently presented Mr. and Mrs. Ford with a complete air conditioning system for their home, including a Carrier "Climate Center" to control and monitor its operation.

Ford is now associated with the A. R. Bowman Co. of Rochester and will sell to the industrial market a variety of supplies.

Penn Controls Names Elmer A. Rave

GOSHEN, Ind. — Elmer A. Rave has been appointed to head up the Chicago district sales office of Penn Controls, Inc., according to H. M. Carnahan, vice president-director of sales.

Rave has been associated with the controls industry for 20 years in various capacities ranging from engineering and sales through plant management. Before joining Penn, he was associated with Sampsel Time Control, Soreng Products, and Controls Corp. of America.

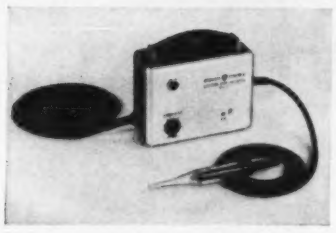
Penn Controls also announced that its Birmingham district sales office has moved to Chattanooga.

The new address is P. O. Box 9191, Chattanooga 11, Tenn. The telephone number is Madison 2-2922. William P. Marshall, district manager, will continue to serve the territory from the new office location.

Shetland Names Bross

SALEM, Mass. — Albert S. Bross, formerly vice president and general sales manager of O. A. Sutton Corp., has been appointed to the newly-established position of vice president in charge of marketing for the Shetland Co. here.

locates leaks in a flash . . .



This new General Electric Type H-6 leak detector flashes a probe light instantly when the tip pinpoints a leak. Air conditioning and refrigeration leaks (even as small as ½ ounce per year) are detected quickly and positively in a flash! ***Eliminates costly guess work.*** As soon as the tip of the probe finds a broken seam or leaky joint, there's a reliable signal right in your hand! The H-6 has an automatic balance circuit . . . you can locate leaks even when the atmosphere is contaminated with refrigerants up to 100 ppm. Flip the switch and start probing in only 60 seconds. This sensitive unit ***responds to leaks quickly,*** recovers in a second. It's compact, lightweight, rugged, portable . . . and attractively designed. Always enjoy fast, positive, sensitive detection—at low cost—with the Type H-6. Or, for other special applications, select from General Electric's complete line of portable and stationary halogen units for pressure or vacuum leak testing. Get the full story today! Just contact your local air conditioning and refrigeration wholesaler, or write direct to Sect. 595-203, General Electric Co., Schenectady 5, N. Y.

See the latest additions to General Electric's complete line of leak detectors and leak standards at the 11th Air Conditioning and Refrigeration Exposition Exhibit in Atlantic City's Convention Hall, Booth Number 215, November 2-5.

Other General Electric Instruments for Industry—*Hook-on voltammeters, electric recorders and controllers, pyrometers, timing devices, speed and color measurement equipment, laboratory test instruments.*

INSTRUMENT DEPARTMENT

GENERAL ELECTRIC

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

"Coach Bob Zuppke reacted: 'I'll tell you one thing. If we ever play this Catholic university again, it will be on a Friday'."

Wake Forest coach "Peahead" Walker described his method of selecting players thusly:

"I took all them cotton pickin' reecroots out to the woods and tole 'em to run.

"Them as ran around trees wuz my backfield candidates. Any whut run over trees wuz my lineman."

Physician for the Pittsburgh Stealers thought he was injecting novocaine into Ernie Stautner's bum shoulder prior to a match against the Cleveland Browns last year.

By mistake, Stautner received demerol (a tranquilizer) and promptly went into a deep sleep from which he couldn't be roused until the next day.

"They tell me some of our freshmen look awfully good," Duffy Daugherty of Michigan State quipped, "but just remember, they haven't had the benefit of my coaching yet."

Hazards of the Profession

Wife of a defensive tackle employed by the Detroit Lions admitted recently:

"It's never dull being married to a professional football player. Every time he comes home he looks like a different person."

College football coaches *en masse* are pessimistic-for-the-press at the start of every season. As the all-time champ we give you Buddy Kerr of Dayton University.

"If any of my backfield candidates makes first string," he confided to a newspaperman, "we're in trouble."

Transferee to a Milwaukee academy filled out a questionnaire, in which he revealed that he had attended six different schools in as many cities during the previous nine years.

"Your father must be an Army officer," commented the registrar.

"No, sir. He's a football coach."

Your Credit Better Be Good

Although today the National Professional Football League is a sound business proposition, it has had an uneasy past, financially.

Take the time the Colts, on whom even Dallas millionaires gave up, moved to Baltimore. George Preston Marshall of the Washington Redskins (a reassuringly wealthy man) held hands with a Baltimore financial backer to help the latter through early crises.

Night before the first game in Baltimore the two "angels" were counting advance-sale dollar bills in a hotel room. Sudden gust of wind blew a few stacks of that green-stuff out the open window.

The Baltimorean, unperturbed went on counting.

"You're made for this business!" admired Marshall.

Backers of the proposed new professional football league, please note.

Seventeen hundred local stockholders own the Green Bay Packers.

George Halas is sole proprietor of the Chicago Bears.

'Tis said, thus, that on an ownership level the Packers collectively comprise the only club in the league which can outshout noisy Halas.

Football Is An Original American Contribution to 'Culture'

Every football season names of small colleges, which seldom if ever get national publicity any other time, appear in newspapers around the country. Then, when the season is over, they fade from the national scene along with the autumn leaves.

Being a more than casual observer of grid goings-on, NEWS editor Jack Sweet scans lists of college football scores in Sunday newspaper sports sections.

Regularly he wonders where some of these colleges are, how many students they have, and what kind of education they offer.

Sports pages split football score-lists according to general sections of the country—East, Southwest, etc. Few of us have any comprehension of the state, city, or town in which these particular colleges are located.

For instance, a recent listing told us that Augustana (which scored 10 points) and Carthage (the loser with 7 points) are in the Midwest. So are we, but we never heard of either of these schools.

We have heard of Gustavus Adolphus (30), but never can remember where it is. The home of its recent opponent, St. Thomas (6) is a complete mystery to Jack, as it is to the rest of our sportsminded staff.

Other Midwest schools which did battle recently and whose home towns we are not acquainted with:

Loras (18), Platteville (16); Muskingum (33), Marieta (24); River Falls (13), Stevens Point (7); Superior (46), Northland (6).

In the East, Jack has wondered where and what are American International (14) and Quonset Point NAS (O), and C. W. Post (31) and Montclair St. (12).

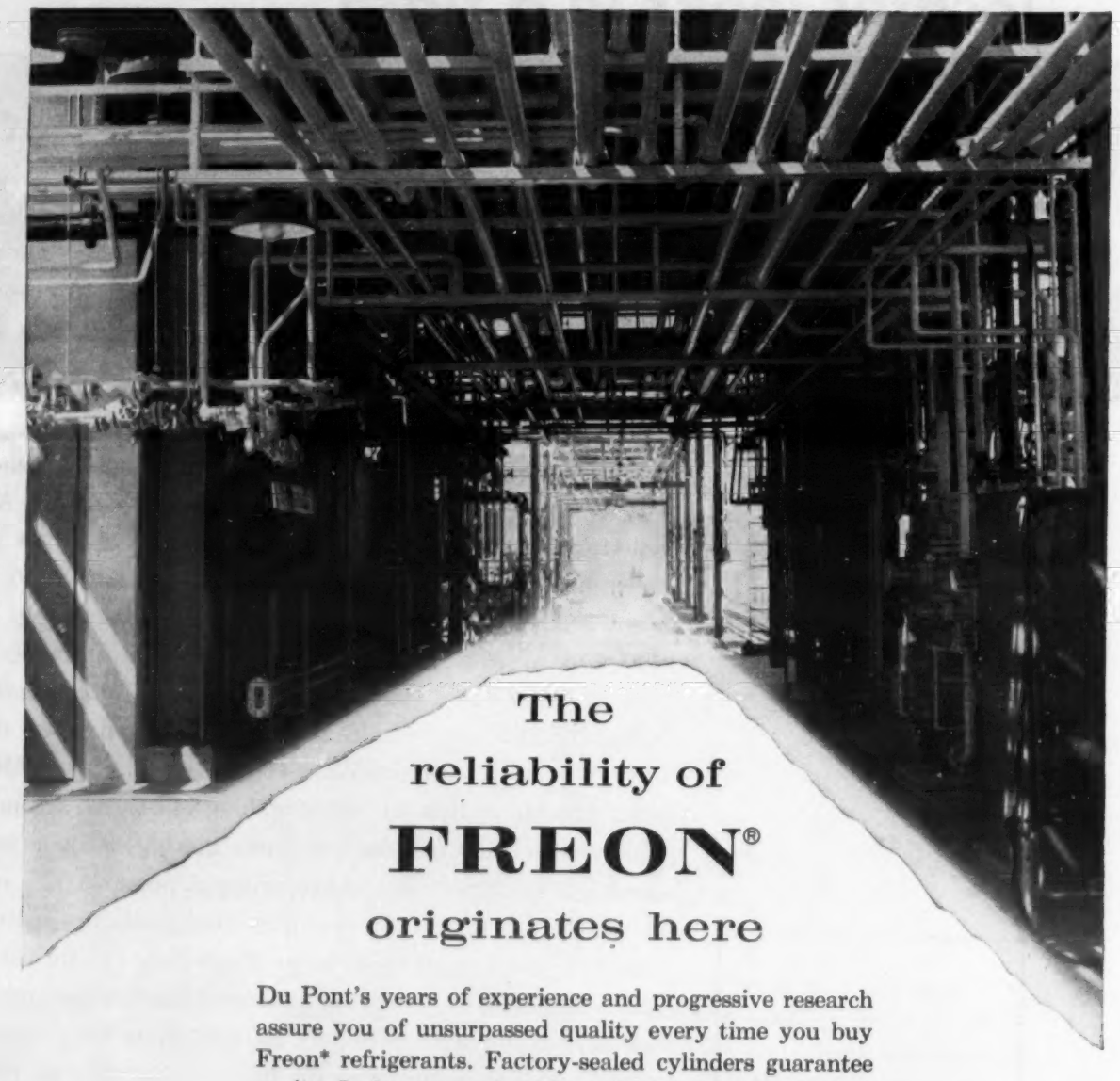
Also, Clarion (13) and Edinboro (0); East Stroudsburg (22) and Kutztown (0); Mansfield St. (7) and Brockport St. (6).

Moving down the list to southern schools, our entire editorial staff's curiosity was aroused by these names:

Appalachian St. (21) and Emory and Henry (0); Clark (18) and Claflin (6); Lenoir Rhyne (15) and Wofford (8); Presbyterian (24) and Furman (23).

And where in the Southwest, we mused, are these recent grid adversaries? Grambling (48) and Bishop (6); McMurry (17) and Howard Payne (8); Panhandle A & M (14) and McPherson (0).

The list revealed that Rust (12) and Tougaloo (6) are in the West, as are Whitworth (19) and Willamette (0). But where in the West? And what kind of school is Rust? And what attracts students—and how many—to Tougaloo?



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FREON®
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Du Pont's years of experience and progressive research assure you of unsurpassed quality every time you buy Freon* refrigerants. Factory-sealed cylinders guarantee purity. Insist on genuine "Freon" refrigerants—the gold hood cap identifies its premium quality.

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E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division, Wilmington 98, Delaware

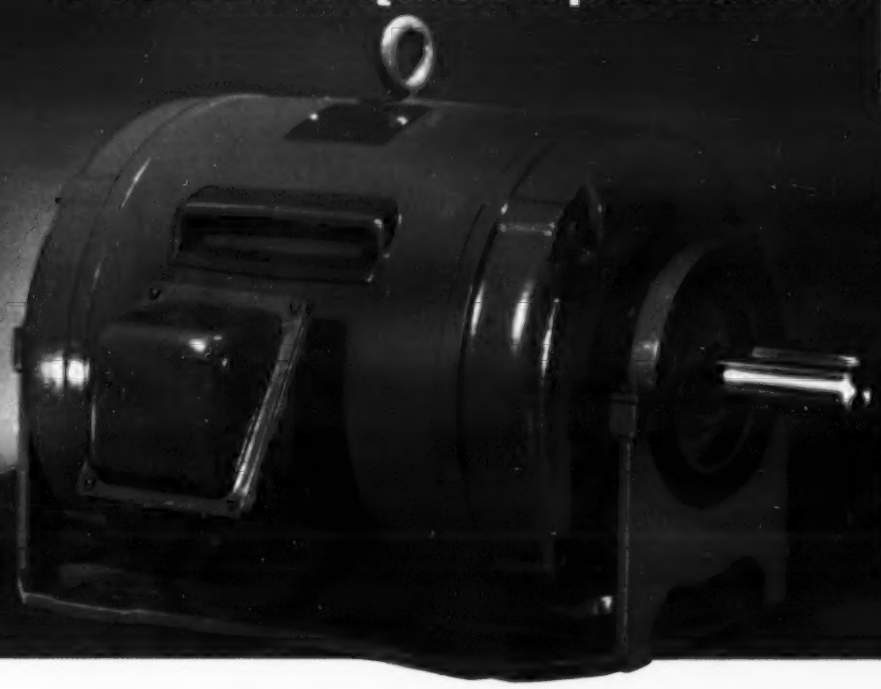
MANUFACTURING CONTROL

LABORATORY CONTROL

UNLIMITED SUPPLY

Freon and combinations of Freon- or F- followed by numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon refrigerants.

For *extra quiet* operation...



WAGNER 10 HP RESILIENT MOUNTED MOTORS

are vibration free··sleeve or ball bearing

Today, many motors are installed in areas where noise must be held to a minimum — in hospitals, churches, schools, office buildings, restaurants and similar locations where quiet is essential or desirable.

Such installations have created a need for larger polyphase motors that are exceptionally quiet and vibration-free. Wagner has filled this need by expanding its line of polyphase resilient mounted motors to include standard ratings through 10 hp.

If you have an application that calls for a smooth running motor, cushioned by resilient mountings, it will pay you to specify these Wagner Motors—a complete range of ratings from 1 through 10 hp.

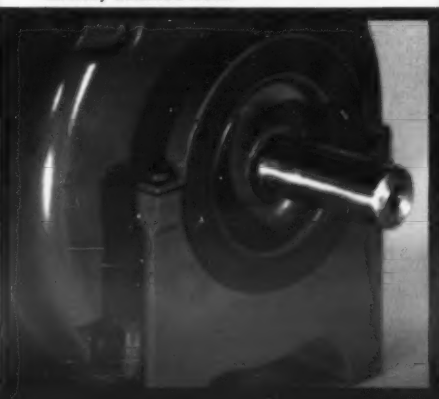
Constant research and development have kept Wagner up front in electric motor design for more than 65 years—made the name Wagner one you can trust in choosing electric motor drives.

Your nearby Wagner Sales Engineer can help you select the *right* motor to meet your requirements. There are Wagner branch offices in 32 principal cities.

Wagner Electric Corporation
6400 PLYMOUTH AVENUE, ST. LOUIS 14, MISSOURI

SLEEVE OR BALL BEARING. These motors are furnished with quiet running steel-backed babbitt lined sleeve bearings that have high load carrying capacity. Ball bearings can be supplied when desired.

NEOPRENE CUSHIONING RING. Annular mountings, of neoprene bonded to steel rings, cushion the motor in its cradle base to absorb the small amount of vibration that remains in the most carefully balanced motor.



CEILING, SIDEWALL OR HORIZONTAL MOUNTING. You can mount these motors on walls or ceilings by rotating the cradle base 90° or 180°. The motor is designed to remain completely dripproof in any horizontal position.

Pack MORE POWER Into LESS SPACE

WAGNER CAPACITOR-START MOTORS

PROVIDE DEPENDABLE STARTING...GIVE LONG TROUBLEFREE SERVICE...

OPERATE IN ANY POSITION Here's the single phase general purpose motor that gives quick troublefree starts every time—thanks to a Wagner-designed quick break switch... that has earned the Wagner motor reputation for giving long troublefree service... that permits all angle operation in sleeve bearing fhp models.

Wagner Type RK Motors give more horsepower with less bulk —are ruggedly built to permit direct mounting—are small enough to fit in tight spots. Available in a range from ⅛ through 5 horsepower, with either sleeve or ball bearings, with rigid bases or with resilient mountings for exceptionally quiet operation.

You can get these motors from leading motor distributors in your community or through Wagner Sales Offices in 32 principal cities. Your Wagner Sales Engineer will be glad to help you select the right motor for your application. Wagner Bulletin MU-217 gives full details on Capacitor-start Motors.

Wagner Electric Corporation
6400 PLYMOUTH AVENUE, ST. LOUIS 14, MISSOURI

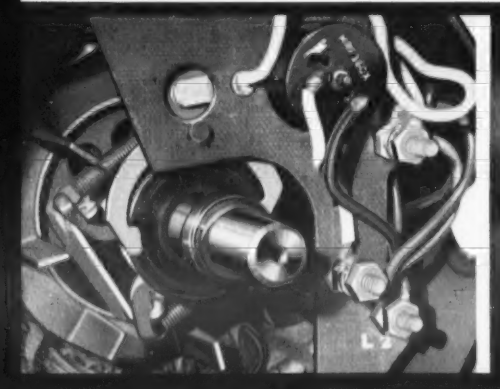
WM59-11

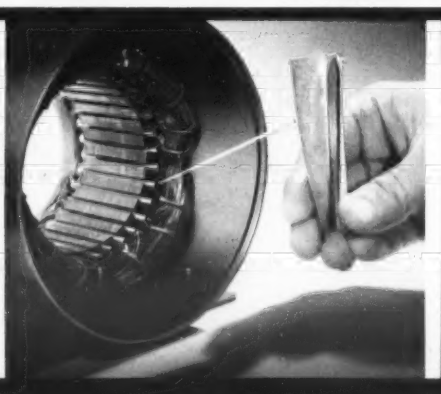
QUICK BREAK SWITCH. The starter is disconnected from the line by this Wagner-designed switch—test proved to make more than a million breaks. (That adds up to two starts per hour for 50 years!)

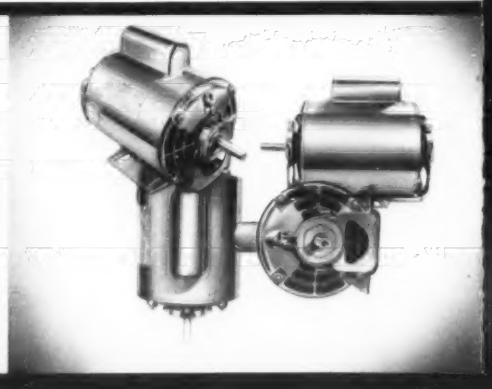
MYLAR* INSULATION. Mylar-paper insulated slot insulation gives excellent protection against moisture, adds thermal stability that gives these motors longer life when unexpected overloads occur.

*DuPont Trademark

ALL-ANGLE OPERATION. The sleeve bearing design, in fractional hp ratings, has a positive lubrication system that permits operation in any position . . . can mean important savings in motor costs to manufacturers.







RACCA, UA Consider Ways To Cooperate for 'Mutual Profit'

How Joint Activities Are Helping To Solve Problems Of Mutual Interest

LOS ANGELES — How the Refrigeration & Air Conditioning Contractors Association (RACCA National) participates in joint activities with the United Association (plumbers, pipefitters, and steamfitters union) and with other associations of contractors to solve problems of mutual interest, was outlined at RACCA's annual convention by Leo Howard Kerns, managing director.

RACCA engages in five activities in which the UA also participates, Kerns explains. These include:

5 Joint Activities

1. The Joint Program and Training Committee
2. The Joint Industry Program Committee
3. The Construction Industry Joint Committee
4. Subcontracting Trades Committee
5. "Operation Teamwork"

Nos. 1 and 5 are the only ones in which RACCA and the UA are the sole participants. Other organizations take part in the remaining three. Kerns described the functions of the above-named groups as follows:

The Joint Program and Training Committee was formed to implement training programs and organizational work. The committee is financed by contributions from both RACCA and the UA, and is composed of representatives from both organizations.

The Joint Industry Program Committee is composed of RACCA, National Association of Plumbing Contractors (NAPC), Mechanical Contractors Association of America (MCAA), National Pipe Line Contractors Association, Lead Burners, Sprinkler & Fire Control Association, and the UA. This is an industry wide group which is tackling industry problems at the national level.

William Scott, MCAA president, is now chairman of this committee, and Tom Alexander, RACCA president, is vice chairman. Harvey Hottel is RACCA's other representative on this group.

JIPC holds several meetings each year, and some of the problems occupying most of the recent discussions have been temporary heating and cooling in new construction, and the situation as regards electric heat.

Works To Eliminate Jurisdictional Rows

The Construction Industry Joint Conference is a new organization, formed this year, designed to function somewhat along the lines of the National Joint Board for the Settlement of Jurisdictional Disputes. It has the support of the building trades unions, and some of the national associations of contractors. One of its principal aims will be the elimination of unnecessary jurisdictional conflicts.

Subcontracting Trades Committee was formed to lead the opposition to a proposed Federal anti-bid peddling law that Kerns said showed under analysis to be a "license to bid shop."

Some 10 subcontractor associations and seven of the building trades units (including the UA) have worked with this group. The committee functions on an informal basis at first, but a more permanent organization is currently being put together.

"At present RACCA is not a member," said Kerns, "but I strongly recommend that it join, since it seems to be an excellent instrument to get Federal legislation to end bid peddling on government construction.

This Subcontracting Trades Committee is also taking up the subject of "retained percentages" and has arranged for a meeting Nov. 5 to discuss this subject with the American Institute of Architects. All interested organizations have been invited to send their representatives.

"Operation Teamwork" is a plan under which the country is divided into six regions for organizational activities. Each region has a RACCA member (currently, each one is a member of the national board of directors) in charge of recruiting new members and local chapters for the contractor.

"We intend to step up our organizational work everywhere, forming new chapters and strengthening those already established," Kerns declared. "In every instance where labor matters arise, we request and receive a UA special representative, through Joe Monahan, and this representative goes in to work with the contractors to work out solutions.

"For example, in getting our new Sacramento chapter going, Don Kissell and Henry Ely re-

(Concluded on next page)

When the Refrigeration and Air Conditioning Contractors Association held its annual convention recently, one of the sessions was concerned with ways in which the contractor and labor could cooperate for "mutual profit."

Officers of both RACCA and the United Association discussed the subject, and the principal points which they made are covered in the reports of these talks published here, dealing primarily with training programs and jurisdictional disputes. Further reports from the RACCA convention will be published in future issues.

Thinking of—

- **changing territories**
- **expanding your territory**
- **taking on new lines—**

Check the
CLASSIFIED ADS

Your opportunity may be there.

"They're strictly trouble-free . . . because of White-Rodgers Controls"

Type 1609-31 has special 15½ inch air-sensitive bulb to give quick and accurate response to slightest temperature change. Range −20 to +50° F., Adj. Diff. 3 to 25°, 5 ft. capillary. Other types available to cover ranges from −20 to +75° F. with capillary lengths up to 20 ft.

Write for catalog.

"For my customers, *continuous* refrigeration is a must. You can bet I use White-Rodgers controls on all my installations. Even on the toughest applications, I know I'm set—because White-Rodgers quality pays off in *trouble-free* system operation!"

For control of quick freeze cabinets, fruit storage, farm freezers, walk-in boxes, floral, meat and vegetable display cases, blood banks . . . wherever "trouble" means "loss" . . . smart servicemen refuse to take risks. They rely on White-Rodgers exclusive Hydraulic-Action controls.

WHITE-RODGERS

ST. LOUIS 6, MISSOURI TORONTO 8, CANADA

221

(Concluded from preceding page)

quested through me that Charles Voss of the UA be sent in to assist and Joe Monahan assigned Voss to the task. This is how 'Operation Teamwork' functions. We can improve it with redoubled organizational efforts."

Kerns said that many other problems arising out of relations of the contractor members with the UA and with other unions in the building trades are brought to his office, and that when the problem becomes of enough importance Monahan assigns one of the UA special representatives — Owen Kelly, Joe O'Toole, or Charles Voss— to look into it.

"RACCA and the UA do work together on a multitude of matters, and I think this indicates a recognition by both labor and management of their joint responsibilities to improve the industry in which they work," Kerns declared.

Monahan Tells Why Union Won't Provide Specialized Training for Refrigeration

LOS ANGELES—The United Association, as part of its national policy, is doing everything possible to assist in the training of its apprentices and journeymen to become skilled refrigeration and air conditioning mechanics, but it will also insist that such men get enough general training as pipefitters so that they will become well-rounded mechanics in the piping trades.

That was the main point in the message which Joseph Monahan, general organizer for the union of plumbers, pipefitters, and steamfitters, gave to the Refrigeration & Air Conditioning Contractors Association (RACCA National) at the latter's recent annual convention.

Monahan also discussed some phases of the new "labor reform bill" and stated that its provisions clear the way for legitimate joint contractor-union training programs. He also outlined some trends which he stated the union dislikes and will actively oppose.

"The United Association has a genuine interest in promoting your welfare because your success and prosperity will inevitably provide increased job opportunities for our members," Monahan declared.

"It was for this very reason we got together with your officers five years ago to work out a joint program for training and organizing, and to bring some real certainty and integrity to a field in which the public has all too often been victimized by unreliable contractors and faulty workmanship.

"Our real contribution to refrigeration and air conditioning is to make sure that all the qualified contractors can get competent workmen in required numbers at the right time and place and at fair wages and working conditions which the contractor can count on in advance.

What UA Offers to Men

"Our plan is to organize refrigeration and air conditioning divisions in our building trades and combination local unions. The mechanics we seek as members of these divisions are those employed by refrigeration and air conditioning firms for servicing and repair work for installing lighter equipment.

"When we approach these men we hold out to them the prospect of a collective agreement stabilizing their wages and working conditions on a satisfactory basis. We also hold out to them the prospect of training programs.

"Jointly administered by the contractors and the members themselves, whereby they can both improve their knowledge of refrigeration and air conditioning and also learn general pipefitting. In this way they will be able to serve their contractors more effectively, and, eventually, to hold a building trades card for every kind of pipefitting in our industry.

"Finally, we guarantee these men freedom of movement in the performance of their specialty work in the employ of refrigeration and air conditioning contractors. As we see it, they couldn't get a better deal anywhere at any time.

"An indispensable part of our plan is the joint training program. Wherever we have established a refrigeration and air conditioning division, we have also insisted on a joint training program administered by an equal number of representatives from both the contractors association and the division.

"We have also insisted on a payroll contribution by each contractor on each hour worked by each of his employes under the bargaining agreement. This contribution is on a cents per hour basis necessary to run a local training program.

New Labor Law Settles Question of Legality

"All contributions are paid into a fund for training purposes administered by the joint committee as trustees. And, incidentally, we have, from time to time, run into objections to these payments on the grounds that they are illegal under the Taft-Hartley Act. Of course, we have always considered them entirely legal at all times.

"But just in case any of you have had any doubts about it, now is the time to set your minds to rest. The new labor reform bill—in Section 505 contains an express amendment to Section 302 of the Taft-Hartley Act stating that criminal penalties against employer payments to any representative of his employes will not apply 'to money or other things of value paid by an employer to a trust fund established by such representative for the purpose of—defraying the costs of apprenticeship or other training programs,' so long as the trust funds are jointly administered, as required by law.

"This new provision, effective immediately, clarifies the situation beyond a shadow of a doubt.

"Now, what kind of training do we provide for our mechanics? Perhaps the best way to answer this question is first to state what we don't and won't provide. That is, we don't and we won't provide specialized training confined exclusively to refrigeration, or to air cooling.

"We're not interested in training specialists in the United Association and we're not going to split up the pipe fitter branch of our craft into a lot of separate types of craftsmen.

Refrigeration and air conditioning are recognized parts of the pipefitter's craft. In fact, any good refrigeration mechanic must know and practice the

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techniques of heating and installing heating systems before he can call himself an expert even in your particular specialty.

Refrigeration Trainees Get Only 2 Years of Pipefitting Training

"When we train an apprentice member of our Refrigeration and Air Conditioning Division, our aim is to give him the full five years' steamfitters training and related instruction which we require of all our apprentices.

"But there is one important difference. Your apprentices will receive three years' concentrated training and related instruction in refrigeration and air conditioning.

"Only the final two years of his apprenticeship will be devoted to general pipefitting. This way you will be getting a well-rounded mechanic and we will be getting a journeyman pipefitter who will be an asset both to himself and the United Association as a whole.

Sees Tendency Toward Technicians Harmful

"Despite our training policies, which we are convinced are the soundest policies, nevertheless we have observed a very definite and harmful tendency to promote the training of specialists and technicians. Not long ago the National Association of Manufacturers put out a booklet on what they called 'technician training.'

"In addition to other 'technicians,' who, as described, were nothing but men taught only in some one phase or skill of a recognized apprenticeable trade, they listed a 'Refrigeration technician,' who after a short course in some vocational school somewhere, is supposed to be qualified to do all the work in your field.

"Even the United States office of Education has been fooled by this kind of thinking. A short time ago they put out a little booklet called 'Vocational-Technical education for American Industry.'

This booklet, just like the N.A.M. publication, made what they thought was a great discovery, namely, that the rapid changes in industry have created an ever increasing demand for skilled 'technicians' which our vocation schools must satisfy.

"They then state a technician uses his brains more than his hands and does something above a craftsman and below an engineer. But when they get down to cases, they use such terms as 'instrument technician'—described as some one who 'installs, maintains, and adjusts various types of precision instruments used for process control or for other purposes.'

"Other examples are 'maintenance wiremen (electrical).' This man 'working from blueprints installs and maintains cables, control panels, and similar equipment.' Or 'automotive-engine technician' who 'repairs and maintains automobiles, trucks, tractors, and other automotive equipment.'

"The net result of this type of thinking, put into actual practice, is vocational school courses which train a man in only one narrow skill and neglect all of the other related knowledge he must possess to become a true craftsman.

"This, I submit, is a distinct disservice to the real needs of the industry and the real defense needs of the country. Under the guise of training a technical expert who is a cut above the craftsman and a cut below the engineer, they are really promoting specialists who can't serve you properly and can only compete with well-rounded craftsmen for their jobs.

"I was very gratified to note that the leaders of our entire industry, including your President Tom Alexander, have been alerted to the dangers of technician training.

JIPC Opposes Technician Training

"In fact, just last month, President Bill Scott of the Mechanical Contractors sent a letter to Dr. Derthick, Commissioner of Education, on behalf of the Joint Industry Program Committee—of which RACCA is a member.

"This letter protested the policy of the Office of Education in promoting technician training and particularly complained about the way the commissioner appears prepared to finance this training from Federal funds under the National Defense Education Act of 1958.

"Now this act provides Federal funds to state vocational schools for training 'highly skilled technicians' for two years in fields requiring scientific knowledge necessary for the national defense. The courses are supposed to be above the junior high school but below the college level for any one over 16 years of age.

"The proposed guide also made it clear that these funds could not be used to provide some necessary aspects of a coordinated 5-year course of related instruction for apprentices or for specialized training of journeymen to make them better journeymen.

"We thought the act in no way required our apprentices and journeymen to be omitted from its aid and we felt that its operation in our area should be coordinated with our training programs so as to help them and not hurt them. This was the reason for our protest.

"I'm told our training experts, together with representatives of other trades and contracting groups, have had several conferences with Dr. Derthick. But it still remains to be seen whether funds available under this act are actually going to be used in harmony with our own training programs.

"Now, getting to my starting point, these are the broad outlines of our plans and objectives. Within their framework, we intend to cooperate with you 100%, as we have in the past.

"Within this framework we know we can help you secure new fields of work, such as contract maintenance for commercial and industrial firms—fields which are now just opening up new and practical opportunities for profit. We seek your full cooperation. But we are going to move ahead with our own plans,

(Concluded on next page)

FORCE-FLOW LIQUID CHILLER

Circulates, refrigerates and/or heats water, liquid chemicals or solids. Corrosion resistant, stainless steel interior. ¼, ½, - and ¾ h.p. sizes. Various temperature ranges. Tolerances as close as 1/10°F. plus or minus.

Standard Model

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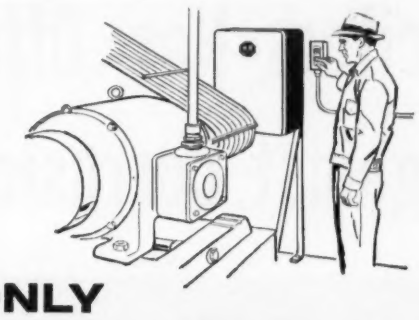
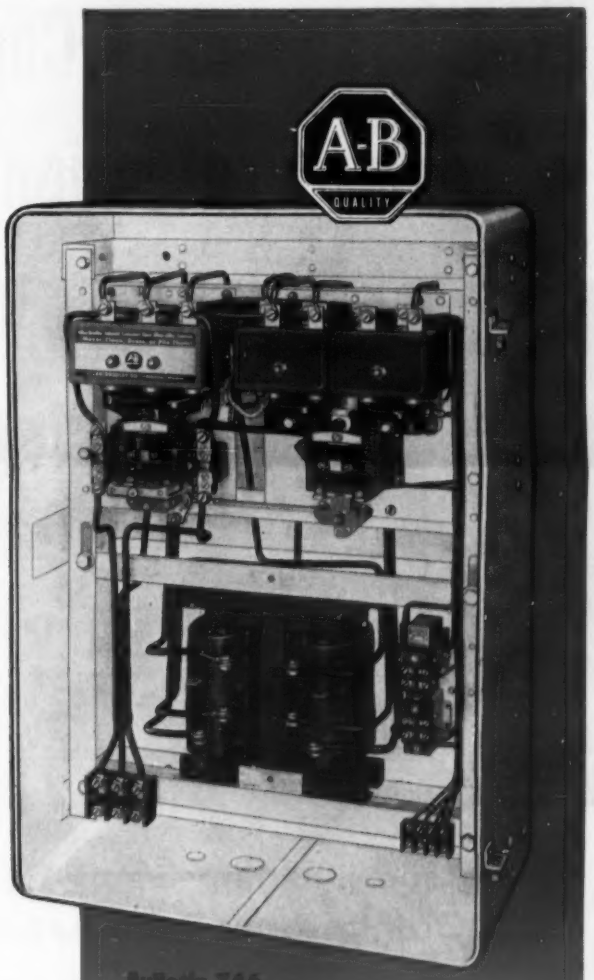


ONLY ALLEN-BRADLEY CAN PROVIDE ALL THE ANSWERS

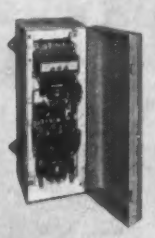
—for reduced voltage starting of heavily loaded compressor motors

The broad line of Allen-Bradley reduced voltage starters makes possible a selection of the best starter for any air conditioning system—not only to meet the power company's requirements but also to provide the best starting conditions for the motor and the compressor.

The simple solenoid contactors in A-B reduced voltage starters have only ONE moving part—assuring millions of trouble free operations. And their double break, silver alloy contacts never need costly maintenance. Accurate, reliable overload relays protect motors against burnouts. Write for Publication 6088.



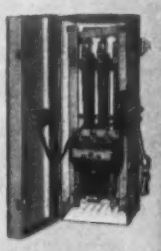
Bulletin 740



Graphite disc resistors are automatically inserted in series with the squirrel cage motor at starting, and they are automatically cut out after a predetermined time. Turning a single screw on the starter frame adjusts the compression resistors exactly to motor and load conditions for velvet smooth acceleration. Ratings to 200 hp, 220-440-550 v.

Bulletin 640

Where remote control is not needed, these graphite compression disc resistor starters provide stepless acceleration of squirrel cage motors. Operated by hand lever, the smooth starting of the motor is under the control of the operator. No-voltage and dependable overload protection is provided. Ratings to 200 hp, 220-440-550 v.



Bulletin 746

Automatic reduced voltage starter for squirrel cage motors that should not be started on full line voltage. It employs autotransformer connected in open delta to reduce line voltage during starting. Adjustable timing relay controls starting period. Taps are provided on the autotransformer to adjust the starting voltage applied to the motor. Ratings to 300 hp, 220 v; 600 hp, 440-550 v.

ALLEN-BRADLEY

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Quality Motor Control

Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

Monahan--

(Concluded from preceding page)

come what may.

"Already, we have made very satisfactory progress. The United Association has about 650 local unions in which refrigeration and air conditioning divisions may be established. In the past three years we have established these divisions in 271 of these locals or about 40%.

"In the past three years we also organized about 4,400 new members in these divisions. Now these figures don't even take into account many more refrigeration and air conditioning men already organized in many other pipefitter or combination pipe-fitter and plumber local unions, such as those in New York City, Chicago, and Los Angeles, etc. If we were to count these men, the total working in your branch of the industry would be considerably larger.

"This progress has not been accomplished simply by sitting back and waiting for our local unions to do something by themselves. To the contrary, the United Association has had between three and four special representatives constantly in the field selling our program.

"We have a program covering all of Connecticut, and two others for parts of New York and eastern Pennsylvania. New Jersey is covered by another agreement on a state-wide basis, and so is Michigan, Arkansas, Utah, and Arizona.

"Here in southern California you have a very fine program in full operation, and for our part we have been making very solid progress in organizing and training men in your branch of the industry. Right here we have the finest kind of an example of what we can do if we really work together."

McCartin Tells RACCA

Most 'Odd-Ball' Jurisdictional Disputes Have Been Solved at Top Union Levels

LOS ANGELES—Most of the "odd-ball" jurisdictional labor disputes which have arisen in the installation of unitary air conditioning equipment have now been settled at top union levels so that in more than 90% of the work, a contractor installing unitary equipment for residential or commercial jobs can use his own men, declared John J. McCartin, assistant general president of the United Association, in a discussion at the annual convention of the Refrigeration & Air Conditioning Contractors Association.

One example of the extremes to which jurisdictional disputes had gone, said McCartin, with an obvious effect on the efficiency and cost of installation practices, was the one in which a union demanded that in the installation of a coil section, the coil and the housing be installed by separate unions.

"In many instances," said McCartin, "the dispute was between different kinds of contractors, but it was nevertheless left up to the union to settle the dispute."

The joint board for the settlement of jurisdictional disputes in the AFL-CIO union setup is the vehicle for settling such disputes, the UA official declared, and the board generally prefers to let one union predominate for a particular type of job.

McCartin said that the UA is continuing in its efforts to head off any jurisdictional disputes that might cause work stoppages in the stallation of air conditioning and refrigeration equipment. It is currently working on an agreement with the Ironworkers union in this regard.

However, in one area of jurisdictional dispute McCartin reported progress as being "slow going." That is in the case of plant maintenance and additional construction in those plants in which a CIO industrial-type union is the certified bargaining agent.

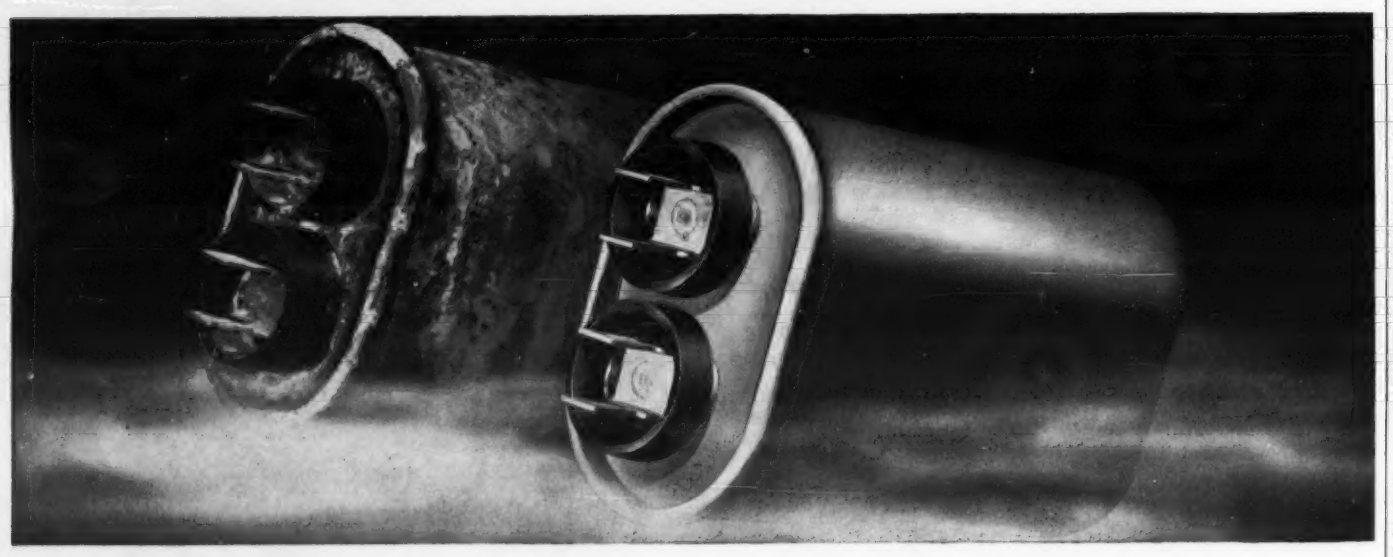
The UA official said that in the 1955 merger of the AFL and CIO, the CIO got a "sleeper clause" in the agreement, which if interpreted literally would eliminate any maintenance work by contractors in industrial manufacturing plants.

Industry has generally balked at this, in most instances preferring its maintenance of mechanical facilities to be done by trained craft union men employed by contractors. After much battling back and forth in the union hierarchy, a "super committee" is now working on the problem.

The union's preference on plant maintenance work is for one contractor to be engaged to take over all maintenance work in a plant (with the right to sub-contract on various special areas, such as air conditioning), and the right to draw on various crafts for the type of workmen needed.

Such contracts are working successfully in the oil refinery industry, McCartin declared.

G-E Drawn-case Capacitors Now Offer Greater Protection Against Corrosion



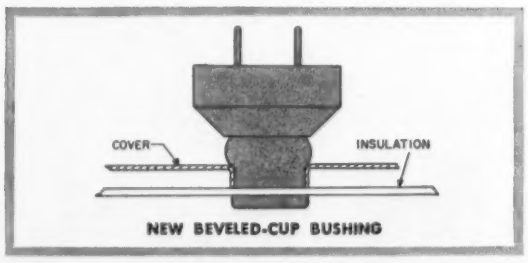
Unique Bushing Design and Automated Application of Granite-gray Paint Assure Uniform, Durable Finish

Accelerated tests in simulated industrial atmospheres proved that this new G-E Granite-gray paint finish inhibited rust and stain formation many times better than finishes used earlier.

Where other finishes were heavily corroded in as little as 250 hours in a 20% salt fog at 95F and 85-90% relative humidity, the Granite-gray paint showed only minor effects, even after 1000 hours.

Chosen only after comparative evaluation of 46 different finish systems under adverse climatic conditions, this remarkable new finish results in longer, trouble-free capacitor life.

To assure you of the maximum protection that Granite-gray paint offers, it must be applied in a uniform film completely covering the capacitor case. General Electric assures complete uniform coverage by use of a unique beveled phenolic-cup bushing and fully automated application of the paint. The new beveled cup facilitates complete paint protection of cover as well as case (above). While maintaining increased electrical creepage distance, the new cup shape also eliminates the collection of troublesome moisture around the terminals.



NEW BEVELED-CUP BUSHING

Granite-gray paint meets Underwriters' Laboratory requirements for all outdoor condensing and central air-conditioning applications.

For maximum protection against salt fog, industrial fumes, slinger condensate and other corrosive elements, specify G-E Capacitors with Granite-gray paint. Further information is available from your nearest G-E Sales Office, or write General Electric Company, Ft. Edward, N. Y.

448-6

GENERAL ELECTRIC

Diverse Types of Equipment Used To Keep Keglers Cool

LOS ANGELES — The nation's keglers (swelled this year by leaps and bounds over the 20 million participants claimed for the sport in 1958) have placed total air conditioning high on their list of luxury demands for their bowling centers, a report from Drayer-Hanson indicates.

Sales Manager Irv. Secord, spokesman for the West Coast manufacturer, uses as his yardstick the recent high increase of jobs calling for comfort cooling of new/old bowling facilities around the country which call for many diverse types of air conditioning products.

To keep keglers cool in the seasons ahead are new D-H air conditioning installations coming up in California for the 300 Bowl, Redwood City; the new Victory Bowl, Van Nuys; and in San Diego, Hillcrest Bowl and the University Lanes.

In the Midwest, Chicago's new Waveland Bowl; in Texas, the Angleton Bowling Alley, Angleton; and Ridges Bowling Center, at Fort Worth, will use unitary or built-up systems of D-H product.

Rounding out the list of new orders processing through D-H's mainplant facility is a single-zoned system for the new Breittell Bowling Alley, Melrose, Mass.

Dual Refrigerant Servicing Cart

THE TRANSPORT industry's first dual purpose refrigerant servicing cart, designed to service transport air conditioning systems which use either Refrigerant-114 or 12, has been developed by The Garrett Corp's AiResearch Mfg. Div. of Los Angeles. The new servicing cart is said to provide economic and efficient servicing operation to airlines using various makes of aircraft having separate requirements for the two types of refrigerant, according to AiResearch. Previously, one service unit was needed for each type of refrigerant used. Through use of the dual purpose cart, refrigerant air conditioning systems are evacuated to 100 microns of mercury pressure, removing all trapped moisture from the system. When moisture combines with refrigerant it forms acid which deteriorates motor windings and other system components. While checking motor thermal protection, the service cart simultaneously dehydrates the refrigerant compressor group. It then purges the system with dry nitrogen; adds lubricants by measured volume to the system, and then recharges the refrigeration system with a measured volume of refrigerant.

Laying Up Water-Cooled Equipment

How To Avoid Spring Air Conditioner Troubles

NEW YORK CITY—Trouble free start up of water-cooled air conditioning systems next spring can depend on proper attention now to laying up the equipment for the winter.

This program of procedures is suggested by Water Service Laboratories, Inc., chemical engineer and corrosion prevention specialist:

Clean float valves and ballcocks and install new washers. When reassembled they should be adjusted to close completely one inch below the overflow point.

Remove and clean strainers and screens and reinstall only when lay-up work is completed. Strainer baskets at the pumps should be thoroughly cleaned

Drain and flush pans, pipe lines (including bleed and overflow), pumps, and heat exchange equipment. A convenient hose connection should be provided if none is available. Clean perforated head pans and spray nozzles carefully.

If circuits are to be left partly filled with treated water to retard corrosion, measures should be taken to prevent freezing.

Drain and flush these circuits before spring start-up.

The heads of the refrigerant condensers should be removed, if possible, and the water side cleaned of all debris, mud, and sediment. Paint all metal parts exposed to the weather in the winter and to the wetting-drying process during operation with an alkali-proof paint made for metal surfaces.

Be sure to follow the paint manufacturer's directions for preparing the surface for painting. Do not paint spray nozzles and parts of the system used for heat transfer.

Cover or screen the louvers and fan opening to minimize the amount of air-borne dirt that can be carried into the cooling tower or evaporative condenser.

Closed circuit systems should be drained and flushed at least once a year. If it is desired to lay-up full, measures should be taken to prevent freezing and the cleaning operation should be done before spring start-up, it was explained.

Protective Maintenance Of Motors, Generators Covered In Booklet

NEW YORK CITY—"Protective Maintenance of Motors and Generators," an authoritative 63-page booklet intended primarily for the use of maintenance men in the electrical industry but of interest as well to engineering students and others concerned with motor and generator problems, has been produced by the Renewal Parts Section of the National Electrical Manufacturers Association.

Individual copies may be obtained without charge from NEMA Headquarters, 155 East 44th St., New York 17, N. Y. Quantity copies may be purchased from NEMA at bulk rates.

Also announced was availability of a NEMA Standards publication—"IC 1-1959 Industrial Control." This revised book covers the rating, test and performance, manufacturing, and application of control devices, a-c general-purpose controllers, d-c general-purpose constant voltage controllers, and definite-purpose controllers, including refrigeration and air conditioning compressor units.

Price is $6 per copy, according to the association announcement.

DOES YOUR APPLIANCE CARRY THIS SEAL of QUALITY?

The motor used in this equipment is protected against overloads, low voltage, over-voltage with a Mighty Mite Thermal Protector

MECHANICAL INDUSTRIES PRODUCTION CO.

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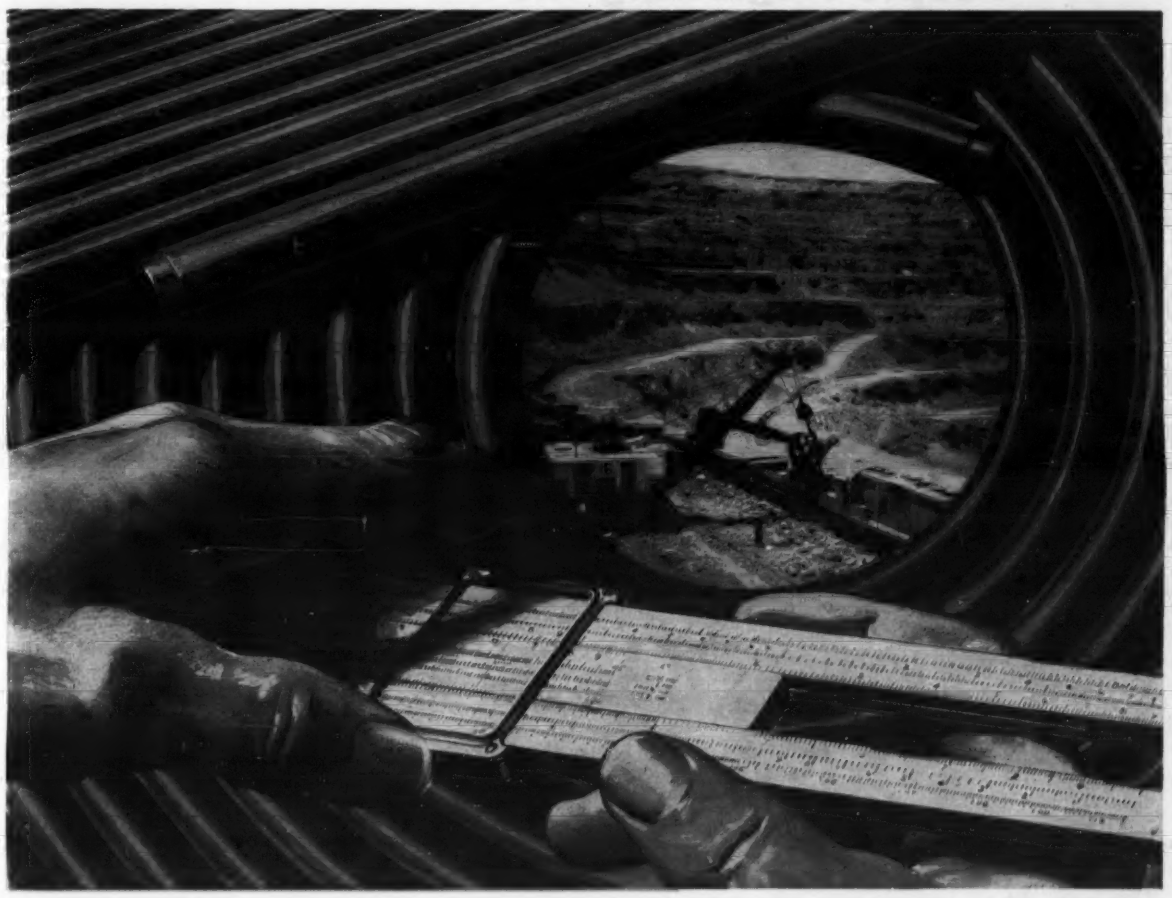

HERE'S WHY SO MANY ENGINEERS SPECIFY

Phelps Dodge Copper Tube for refrigerating, air conditioning and heating units!

1 Phelps Dodge has complete control of its copper tube from original source to finished product. The copper used in Phelps Dodge tube comes from Phelps Dodge-owned open-pit mines, is smelted in Phelps Dodge refineries and fabricated in modern Phelps Dodge mills. This overall Mine-to-Market control is assurance of highest quality and finest workmanship.

2 Phelps Dodge devotes particular attention, throughout fabrication, to uniform anneal for tube flaring and careful control of die draw for close tolerance.

3 Phelps Dodge can supply maximum tube lengths and precise wall thicknesses engineered to customer specifications; straight length tube tempered to meet bending and expanding requirements.

4 Phelps Dodge multiple mill operation guarantees a steady source of tube supply to meet the needs of manufacturers of refrigerating, air conditioning and heating equipment.

It's the famous Mine-to-Market Quality Line . . . sold the quality way—through authorized wholesalers!

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PD

They'll Do It Every Time

by

Jimmy Hatlo

AFTER EIGHTEEN YEARS AS ASSISTANT MANAGER, IT WAS ONLY LOGICAL TO ASSUME THAT CHEDDAR WOULD MOVE INTO THE DRIVER'S SEAT—WHEN (AND IF) IT BECAME NECESSARY....
CHEDDAR, OLD BOY, I'M TIPPING YOU OFF! I'M RESIGNING AS OF NEXT FRIDAY—YEP—GOING INTO BUSINESS FOR MYSELF—YOU'RE IN LIKE FLYNN! BE PREPARED TO MOVE OVER HERE....
EUREKA! AT LAST! THE SUNRISE!
MANAGER
ASST MANAGER
BUT WHO GOT THE JOB? ARE YOU ASKING? THEY'LL DO IT EVERY TIME....
CHEDDAR—HAROOMPH! I WANT YOU TO MEET J. CHISLEWORTH CUTTLEBONE, WHOM I HAVE BROUGHT OUT FROM THE HORSECHESTER BRANCH TO BECOME OUR NEW MANAGER—I'M SURE YOU TWO—AHEM—WILL GET ALONG SPLENDIDLY....
JIMMY HATLO
424
MANAGER
ASST MANAGER

Are Commercial Refrigeration People Neglecting the Ma-and-Pa Store Market?

BIG NOISE in commercial refrigeration today, of course, is the mushrooming of shopping centers everywhere.

Their contingent supermarkets are virtually giant refrigerators—with fluorescent lighting and a few rows of cans in the middle.

Big market for commercial refrigeration? Sure. Great!

Chain store operations everywhere, whether in these shopping centers or isolated, comprise the biggest market for refrigerated display cases of every description (including the multiple-layered-shelves type which are gaining in favor rapidly).

But they aren't the ONLY market. There's another that's mighty important—both to commercial refrigeration people, and actually to the entire food retailing business itself.

What has happened to the corner grocer? Is he the forgotten man? Does not his business count anymore? And how about little open-nights-and-Sundays "Ma and Pa" grocery shops?

Many of the latter are worried. They are afraid to borrow money for remodeling, or even for the purchase of one or two new fixtures, when they constantly are being told that the housewife's shopping habits have changed—that she wants wide aisles, rows of self-service cases, mass displays, and a private parking lot.

Mr. Corner Grocer cannot give all this, or even much of it. He is a small businessman saddled with limited space and limited capital.

With all the hoop-la he hears, he might wonder if he is fighting a losing battle—so why invest further in a business which he is led to believe might be in the last gasp of an extinction stage?

There are many, many thousands of these grocers who could be uplifted mightily if sincere interest were shown in them by commercial refrigeration dealers. The latter can give valuable assistance toward solving their problems.

We should rejuvenate both the neighborhood grocer and his store—as a matter of good business and good Americanism.

We can give him a renewed sense of confidence, and make him feel that he is an important part of the food store business (now and for the future).

The Ma and Pa store fills an essential need. It is NOT a dying institution. Particularly it is important to neighborhoods in which "minority groups" reside.

Not too long ago we were privileged to visit a convention of the National Association of Retail Food & Meat Dealers.

These independent corner grocers are alive and solvent because they are installing new equipment, advertising cooperatively, staying open when unionized chain stores are closed, and giving personal service in a friendly fashion.

Isn't that a key to opportunity, Mr. Commercial Dealer?

To increase your commercial refrigeration business, show independent food stores how they can increase their business—by serving neighborhood needs personally from better equipment.

Those forward looking members of the NARFMD are doing it themselves. They don't need your help particularly. But they constitute only a fraction of the non-chain food retailers.

It's the less knowledgeable, more fearful, of the open-at-night shops which need guidance and handholding and self-confidence building.

They need you, and you need them.

Pay some attention to them, and you'll be rewarded not only with extra business, but with extra-special friends!

With them, all business is PERSONAL. And that's your cue, Mr. Commercial Refrigeration Salesman. It is the clue to solving the assignment of earning their confidence.

When I hear another express an opinion which is not mine, I say to myself, he has a right to his opinion, as I to mine; why should I question it? His error does me no injury, and shall I become a Don Quixote, to bring all men by force of argument to one opinion?—THOMAS JEFFERSON.

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ANY OTHER CONTRACTORS WITH 4 DEPARTMENTS?

Hub Refrigeration & Fixture Co.
Hattiesburg, Mass.

Editor:

At Hub Refrigeration, we have four departments. Each department is a specialty.

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3. The Air Conditioning and Heating Department can engineer the smallest installation to a chilled water and heating system.

4. Our Service and Installation Department is capable of taking these layouts and installing them and keep them in operation.

We know that many business establishments operate dual departments such as commercial refrigeration, service and/or air conditioning. We would like to find out how many other houses in the South, to your knowledge, maintains four departments such as ours, and whether each is a specialty or an integral part of the business.

Your assistance will certainly be appreciated.

GEORGE C. CURRY

FINDS TECHCENTER INFORMATIVE

Tyler Refrigeration Corp.
Niles, Mich.

Editor:

I would like to take this opportunity to express our gratitude and congratulations for the fine work you are doing in "Technical Center." Your articles are well written, informative, and very interesting. Keep up the good work.

C. A. HINKLEY,
Applications Engineer

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Packaged Heat Pumps Save Church Space And Provide Zone Control for Economy

UNITS LINE UP neatly in protected courtyard of Congregational Christian church, unseen from street.

SYRACUSE, N. Y.—Air conditioning of churches, already growing at a fast pace, is being accelerated by the use of packaged heat pumps, according to Carrier Corp.

The Congregational Christian church of Fairfax County, Va., "is a forerunner of at least seven other churches in the Virginia Electric & Power Co.'s territory to be air conditioned at the time of construction by the heat pump method," Carrier reported.

"The church heating system, originally laid out for steam boilers with space for water chilling machines, provides an interesting cost comparison between heat pump and conventional year-round air conditioning systems," the company noted.

"The 10 five-ton Carrier heat pumps were installed for $28,600. Architect's estimates for conventional heating and air conditioning were $45,000.

"Also, by using Carrier two-piece units with compressors located outdoors, the church gained 415 sq. ft. of usable area which would have been occupied by the steam boiler, water chillers, and space in front of the boiler to remove tubes for cleaning.

"Even with construction costs running at a low $13.50 per sq. ft., this meant $5,600 worth of building space could be used for classrooms which would otherwise shelter equipment.

"Furthermore, the packaged air conditioning units give good zone control thus permitting economical heating or cooling of meeting rooms, kitchen, or pastoral offices at times when the entire building is not in use.

"Heat pump operating costs are estimated at $1,383 per heating season (at an average 2.3 cents per kilowatt hour, including demand charges). This is about $200 more than the estimated cost of heating with inexpensive No. 4 oil."

Vice Chairman Theodore Smith of the building committee, a licensed mechanical engineer from Cornell, states, "I figured that with heat pumps we might easily save this $200 on the wages we pay for janitorial help. Hiring a man who would know his way around the valves and gauges of a steam boiler system would certainly cost more than hiring someone who needed only to know how to set the thermostats of completely automatic heat pumps."

The equipment is ranged along the wall of an interior court of the church building. Nine of the ten indoor sections are stacked compactly in a central equipment room occupying 285 sq. ft. of floor space and only 24 ft. of exterior wall.

Man-hours for the 50-ton installation totaled 1,370, a figure Carrier dealer John Krafft of Arlington believes he can improve on in future jobs.

Architect was Joseph Saunders of Alexandria; consulting engineer, S. M. Shefferman of Washington; general contractor, Cowles Construction Co. of Alexandria.

Cool Department Store

BIRMINGHAM, Ala.—Isadore Pizitz, president of Pizitz, a local merchandising institution, announced that plans have been completed for the construction of a huge new department store, completely air conditioned, in the Roebuck Plaza Shopping Center here.

Heat Pumps Used In Gulf Power Building

PENSACOLA, Fla.—The four-story Gulf Power building here is heated and cooled by two 100-hp. Worthington "air-to-water" heat pump systems.

The installation, by the Hardy Corp. of Birmingham, Ala., permits automatic control in each room and different temperatures in various areas.

A 75-hp. Worthington compressor operating as a conventional direct expansion cooling system conditions the interior zone since no heat is required for this area. A self-contained air conditioning unit conditions the "power distribution" control room.

The building has 60,000 sq. ft. of floor space and houses executive and general offices, sales area, and other functions of the company.

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What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

Elmer M. Hoefle Appointed Vice President Of Universal Cabinet; New Plant Planned

ST. LOUIS—John L. Wilson, president of Universal Match Corp., has announced the appointment of Elmer M. Hoefle as vice president of Universal Cabinet Corp., a subsidiary of Universal Match.

In addition to Wilson, who is president of the new company, and Hoefle, officers include Vincent A. Perry, vice president and treasurer; Leonard B. Finder, secretary; and Ann Langewisch, assistant secretary.

Universal Cabinet now sells ice cream cabinets and parts which were formerly manufactured by Anheuser-Busch, Inc. As vice president of the firm, Hoefle will direct the same sales organization previously associated with the Refrigerated Cabinet Div. of Anheuser-Busch.

Early in 1960 manufacturing operations will be transferred from St. Louis to a new plant now under construction in Conway, Ark.

Hussmann Names Gardner Advertising

ST. LOUIS — Hussmann Refrigeration, Inc. has appointed Gardner Advertising Co. to handle its advertising, according to Charles E. Claggett, president of Gardner.

The appointment, effective Jan. 1, 1960, was made by A. B. Biddle, executive vice president of the company, and Robert E. Stephenson, advertising manager. Gardner executives assigned to the account are William J. Rogers, account supervisor, and Richard M. Donnelly, account executive.

'One-Stop Supermarket'

Restaurant Supply House Has Everything From Paring Knives to Air Conditioners

MADISON, Wis. — An operation said to be unusual in restaurant, institution, kitchen, and night club supply houses is Messner, Inc. here which offers a "one-stop-supermarket" supply and equipment house.

Says Ray Messner, president of the firm which recently announced this new name along with a new look:

"Our set up allows a customer to completely furnish a restaurant, commercial kitchen, or night club from all necessary fixtures including refrigeration and air conditioners down to the last paring knife. In our allied lines alone, we have well over 25,000 items."

Established in 1941, the firm was formerly known as Refrigeration Equipment Co. According to Messner, it owes its name change to the fact that "the old name was no longer representative of the diversification of product lines now handled."

Along with the new name is a complete new look. A 6,000-sq. ft. showroom has been added. Here is displayed a great variety of bar, restaurant, and kitchen fixtures and supplies. A large customer parking lot adjoins the building.

"Two popular services are featured at Messner's," the announcement pointed out. "A complete engineering, designing, and estimating department is part of their complete service. Layouts are furnished according to specifications and needs, so that clients can visualize their establishment and order accordingly.

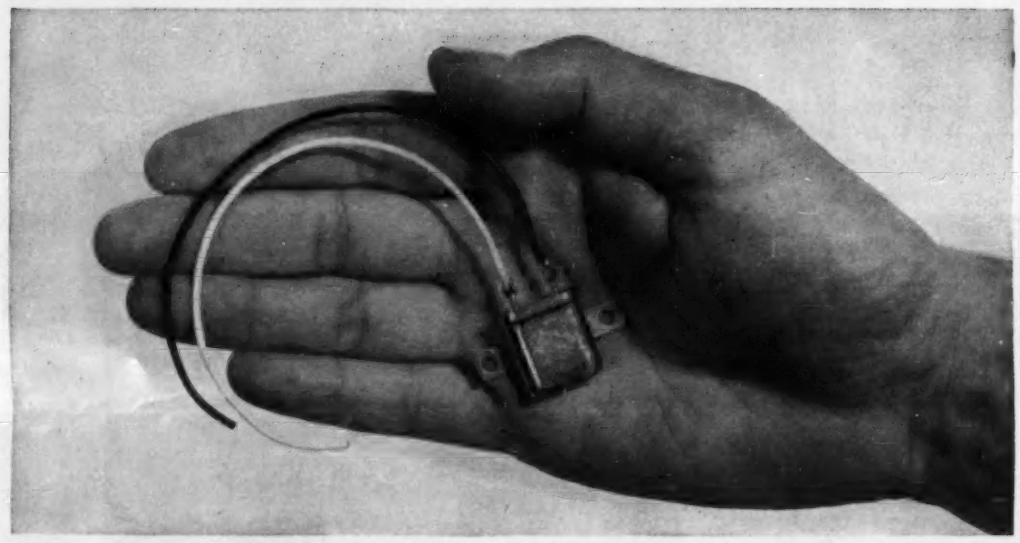
"The department consults with the customers and finished layouts are complete to the last detail of design and colors. Necessary items are custom built to requirements.

"In addition, backing up the product lines, is a 15-man factory-trained installation and service department, rendering 24-hour service. A complete parts department is maintained.

"Complete financing for equipment is available. If desired, Messner's install individual coin meters on the larger items."

The firm has a six-man sales force.

New electronic "watchman" detects freezer breakdowns...



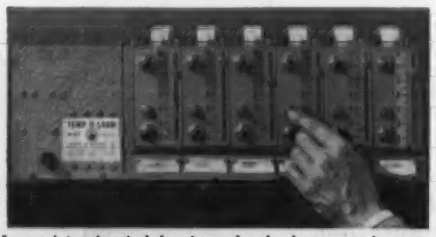
Opens up a golden sales opportunity for you!

Now – thanks to Kidde's new Temp-O-Larm, every supermarket, dairy, freezer plant is a goldmine of potential profit! Frozen food spoilage due to freezer failures runs into millions of dollars annually, is a constant concern to store managers and owners. They will listen to your story on sure, dependable protection against spoilage that costs them only a modest amount per freezer unit – and *you* will net an attractive profit for every one of these installations!

Developed by Kidde Ultrasonic & Detection Alarms, Inc., the Temp-O-Larm system takes up little space, is easily installed, requires little or no maintenance. A tiny detector, pre-set for a specific temperature, is placed in each freezer or locker. Any abnormal temperature rise triggers the system, sounds an alarm locally or at central alarm company, points out the trouble spot immediately. Alarm time delay (0-6 hours) prevents false alarms during *normal* defrost or loading periods.

Temp-O-Larm is being promoted by national trade advertising and publicity, and special dealer sales aids are available. Most important of all, Temp-O-Larm bears the name of Kidde – most respected name in the alarm business.

For more information on Temp-O-Larm, and how it can bring in profits for you, write today to Kidde Ultrasonic & Detection Alarms, Inc.



Annunciator located in store signals dangerous temperatures immediately. Unit shown guards six refrigerated boxes. Has lights indicating normal and alarm conditions, alarm time delay controls, alarm reset buttons.

Kidde

KIDDE ULTRASONIC & DETECTION ALARMS, INC.

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A Subsidiary of Walter Kidde & Company, Inc., Belleville 9, N. J.

Friedrich Appoints H. M. Topel

SAN ANTONIO — Friedrich Refrigerators, Inc. has announced the appointment of H. M. Topel as store and product development manager.

Topel's duties include store planning, merchandising research, and new product development. He is in charge of the Store Planning Dept. through which all new products, advanced store planning, and merchandising techniques, as they apply to the consumer trade, will be developed.

In addition, he will conduct promotional and training work aimed at promoting new and improved merchandising techniques in the food store trade.

Before joining the San Antonio firm, Topel was director of store engineering for Super Valu Stores, Inc., Minneapolis.

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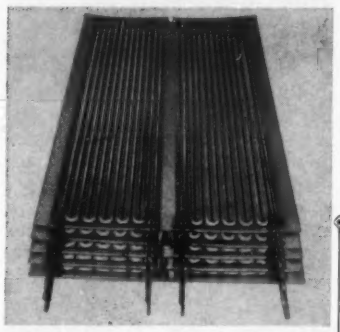
Refrigeration Plate Becomes Integral Part of Inner Tank of Bulk Milk Cooler



SPECIAL "Platecoil" units manufactured by Tranter Mfg., Inc., Lansing, Mich., become an integral part of the inner tank in bulk milk coolers produced by Wilson Refrigeration, Inc., Smyrna, Del. The serpentine passages shown here are on the outside of the inner tank when installed, and the other side of the coil, which is flat, becomes the bottom of the tank.

LANSING, Mich. — A refrigeration plate that becomes an integral part of the inner tank in a bulk milk cooler is now being supplied to Wilson Refrigeration, Inc., Smyrna, Del., by Tranter Mfg., Inc. here, manufacturer of "Kold-Hold" truck refrigeration equipment and "Platecoil" heat transfer units.

"Combining experience in refrigeration and other heat transfer fields, the refrigeration plate incorporates construction features of Platecoil units that have proved advantageous in industrial heating and cooling operations," Tranter said.

"This Platecoil consists of two pieces of metal, one flate and the other embossed, seam-welded together. The flat piece, called the companion plate, is 14-gauge stainless steel and forms the tank bottom. The embossed plate is made of 20-gauge stainless steel and is embossed in a serpentine fashion. The raised part of the embossing makes channels through which the refrigerant passes. There is no additional tubing required. The embossed area is on the outside of the inner tank.

"Two separate embossings, each with its own refrigerant connections, are made so that efficient use of the refrigerant is assured. In this design, the companion plate (the entire bottom of the tank) becomes a prime cooling surface.

"With scientifically designed agitation, the milk passes over the refrigerating surface, is brought to the desired temperature quickly, and held there until the milk is pumped into the tank truck."

The direct-expansion type of bulk milk cooler, with remote refrigeration unit, permits tank installation in small or odd-shaped milkhouses, it was noted.

In direct-expansion coolers with the new refrigeration plate, Wilson is producing models of 200 to 700-gal. capacities.

NCRSA Announces 8 New Members

PHILADELPHIA — Eight firms have joined National Commercial Refrigerator Sales Association, the group reports.

They are: Butcher's Supply Co., Inc., Knoxville, Tenn.; Commercial Refrigeration Co., Rockford, Ill.; Food Store Equipment Co., Abilene, Texas; Frank's Service & Sales, Jefferson City, Mo.; Hoyle Holt Refrigeration Co., Ardmore, Okla.; Roy Mitchell's Appliances Ltd., Cochrane, Ont., Can.; Oklahoma-Hussmann Refrigeration, Inc., Oklahoma City; and R. Young Refrigeration Co., Corbin, Ky.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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The refrigeration industry is growing by leaps and bounds . . . with new developments coming almost daily.

There's only one sure way to "stay on top" in this fast moving, highly competitive field: LEARN SOMETHING NEW ABOUT REFRIGERATION EVERY DAY!

How? Read the trade journals you receive . . . handbooks and literature from manufacturers . . . textbooks from the library. Participate in your industry associations and societies . . . take advantage of educational material they offer. Consider night classes at a nearby trade school . . . and just "talk shop" with your co-workers.

All of these "projects" are "part of the job" for scores of Hussmann people . . . one reason Hussmann — stays on top!

One more thing: If you have any questions about servicing or installing Hussmann equipment — ask us! We're always happy to help!

HUSSMANN

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HUSSMANN REFRIGERATOR CO., LIMITED, BRANTFORD, ONTARIO, CANADA
HUSSMANN EXPORT DIVISION, 60 E. 42 ST., NEW YORK 17, N. Y.

10-59

Installation & Service Practices In Commercial Refrigeration

By Frank J. Versagi

Defrosting (2)

One of a group of discussions on several phases of the installation, operation, and servicing of commercial refrigeration equipment.

Water or brine defrost is limited to larger storage coolers and freezers and consists simply of spraying water or brine over the frosted coil. Normally the water is circulated by a pump controlled by a time clock; water or brine may or may not be pre-heated.

Extensively used in low temperature cases, and offered as optional in higher temperature cases, electric defrost is increasing in popularity. In most instances, a resistance heater with fins is located at or near the evaporator. When energized, the heater applies heat externally to the coil, usually through fan action. Unless the heater is actually inserted in the evaporator coil, it is necessary in electric defrost to have motion of air to get the heat to the frost.

In a few cases, automatic vanes or hoods direct the hot air to the desired location. Walk-in freezer evaporators are usually so designed that defrost may be accomplished without running the fans.

Automatic Defrost Cycle Normally Automatic

While defrost control may be manual—as in the mom-and-pop store where the owner stops the unit and waits for all the ice to melt—it is more normal for the defrost cycle to be automatic. Time alone, suction pressure alone, or time-pressure may be used to control commercial display cases.

When suction pressure is used to control natural defrost, for example, the suction pressure is adjusted so that defrosting is accomplished on each off-cycle, with the cut-in point adjusted to assure defrost. This method is used often in vegetable and dairy refrigerators where the air through the evaporator is circulated by fans.

A disadvantage of this method of control is that low ambient on remotely operated units may drop the suction pressure low enough to prevent cut-in at the proper time, and case temperature may rise to a point unsafe for the product. Where this is a problem, one solution is to use a thermostat for controlling the fixture temperature and a time clock for controlling defrost, suggests one authority.

Both manual and electric defrost may be initiated by a time clock and terminated by the time clock, with the time setting based on manufacturer's recommendations and installer's experience in his locality. Similarly, both types of defrost may be time-initiated and pressure-terminated.

In this case, the time clock stops the condensing unit and energizes the strip heaters (in the case of electric defrost). Case fans may be wired so they run continuously and circulate air over the heaters and through the frosted coil. When the coil reaches the desired temperature, the frost accumulation melts and drains off. Defrost will continue until the coil reaches some high temperature determined by the manufacturer. At this point the suction pressure within the coil reaches maximum cut-in point (say 45 p.s.i.) and trips the timer off of defrost.

Since the timer is time-initiated and pressure-terminated, complete defrost is assured under most conditions. Most such timers also have a fail-safe device which will terminate defrost on time alone after a length of time if the pressure trip should not function properly.

In addition, some manufacturers use limiting thermostats which measure the temperature of the air leaving the coil. Should this air reach a previously determined temperature unsafe for the case, the limiting thermostat turns the heaters off, but does not start the refrigeration unit. Other manufacturers have used these limiting thermostats and abandoned them.

The many factors which may affect frost build-up and subsequent defrosting have been mentioned. In addition, the "cross control" problem mentioned in the article on multiplexing and on line sizing becomes a factor.

Thus, a bulletin from one producer states, "We use electric defrost in our low temperature cases and normally recommend the time-pressure type of control. However, where condensing units and suction lines are located in trenches or unheated areas (or where suction lines are in contact with adjacent suction lines) during the colder months of the year, a low ambient will affect or prevent the pressure of the coil from rising to the cut-in point and result in excessive off-time.

"Under these circumstances, a straight time-termination defrost control should be employed."

Keep Spare Defrost Heater on Hand

A very practical hint for the serviceman from another manufacturer: "When a defrost heater burns out there is, of course, no source of heat for defrosting the evaporator. This means that someone will be required to defrost the case manually every day or two until the replacements arrive.

"Since there is no way of predicting operational life of such heaters—but in a number of years they will require replacement—we feel it would be advisable for all dealers and accounts to purchase and keep in stock at least one defrost heater for each type of fixture requiring one."

Hussmann Appoints Mattingly, Phillips

ST. LOUIS — Hussmann Refrigerator Co. has announced the appointment of R. N. Mattingly to the newly-created position of controller and selection of Parker V. Phillips as manager of the new Field Research Section of Hussmann's Engineering Dept.

For ten years, Mattingly has served as secretary-treasurer of Hussmann Refrigerator Co., Ltd., Canada. He will retain the position of treasurer of the Canadian manufacturing subsidiary.

Mattingly has also been elected a vice president of Hussmann Acceptance Co. and retains his position as president of Hussmann Acceptance Co. Canada, Ltd., its Canadian financing subsidiary.

Phillips has been with the Hussmann organizations since 1954. In 1955 he was transferred to Hussmann Refrigerator Co., Ltd., where he held the position of service manager for the entire Canadian market.

The new Field Research Section which Phillips heads was set up "to help bring the Hussmann Engineering Dept. closer to customers in an effort to better understand their problems and become better acquainted with the needs in the field for new equipment," the company explained.

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Write for Engineering Catalog CBE

Truk-Cel EUTECTIC BLOWERS

CRMA To Cooperate with AFDOUS--

(Concluded from page 1)

frozen foods available to the homemaker.

However, there was questioning of the need for new legislation, some expressing the conviction that existing health and sanitation codes governing the handling of perishable foods generally are adequate. The question was also raised as to how the code might affect existing equipment that was doing an adequate job of preserving frozen foods, although it might fall slightly short of the optimum conditions demanded by the code.

The committee also made a point-by-point analysis of some of the principal features in the proposed code, and made some recommendations of its own for the guidance of manufacturers and distributors of frozen food equipment, and users of such equipment.

Substance of Frozen Food Committee's Report

The following is the substance of the report by CRMA's Frozen Food Equipment Committee:

Reactions to the proposed AFDOUS requirements for the retail handling of the product were generally favorable, but it was agreed that they should not subject either the food store operator or the equipment makers to any particular hardship.

It was pointed out that positive sub-zero temperatures in storage and display cabinets have been available for some years, and that the manufacturers are not only well aware of the performance requirements of such equipment, but they employ engineering techniques which enable them to meet any temperature standard that might be prescribed. In this respect, the committee described the temperature provisions in the retail section of the AFDOUS proposal as both sensible and realistic.

Older Equipment Will Be Replaced In Due Course

It was emphasized, however, that there is much equipment still in use today that was manufactured in the earlier years of frozen food development, when today's concept of adequate protection was not fully applied or accepted, although it was far advanced at the time. While some of this older equipment may not be capable of maintaining optimum temperatures, with proper food store practice it should still be able to perform its intended function of delivering an excellent quality product to the housewife.

In the normal process of retiring overage equipment, as practiced by all good food store operators today, it will all be eventually replaced by equipment of the latest design, and will incorporate features affording more "protection insurance" than may have been true of the original installations.

Thus, the CRMA felt that the existence of a relatively small amount of equipment that might be considered substandard in the light of present-day needs should impose no serious problem. Given time, as constantly accelerated by increasing competition among food retailers, it will be solved of its own accord.

Also spot-lighted in the discussion was the fact that the business of designing, building and distributing refrigerated food merchandising fixtures, as represented by the commercial refrigerator industry, has nearly a century of experience behind it. During that time, the manufacturers have worked closely with all segments of the food industry, and with the retailer particularly, in creating the right kind of fixture for a given type of perishable food, with the sole objective of providing proper health protection at the retail or consumer level.

Thus the advent of frozen foods has not presented any particularly difficult or unique problem, the producers of commercial refrigerators argue, other than perhaps that of acquainting the retailer with the need for storage and display equipment that has been "tailor-made" for that specific purpose.

Committee's Specific Suggestions Listed

The committee's specific suggestions covered such items as thermometers, load line identification, location of fixture, cleaning of interior, and condenser cleaning. (These will be covered in more detail in a later issue of the NEWS).

Following the committee's presentation, the manufacturers agreed to make such revisions in their instruction manuals and educational literature as might be needed to give greater emphasis to the foregoing recommendations, and to make every effort to acquaint their customers of observing these few simple rules.

A spokesman for the committee expressed the hope that public officials considering the adoption of frozen food codes in their states or communities, frozen food industry groups and retailers' organizations, would avail themselves of the services of the committee in matters relating to low temperature equipment characteristics, and thus take advantage of the industry's long experience.

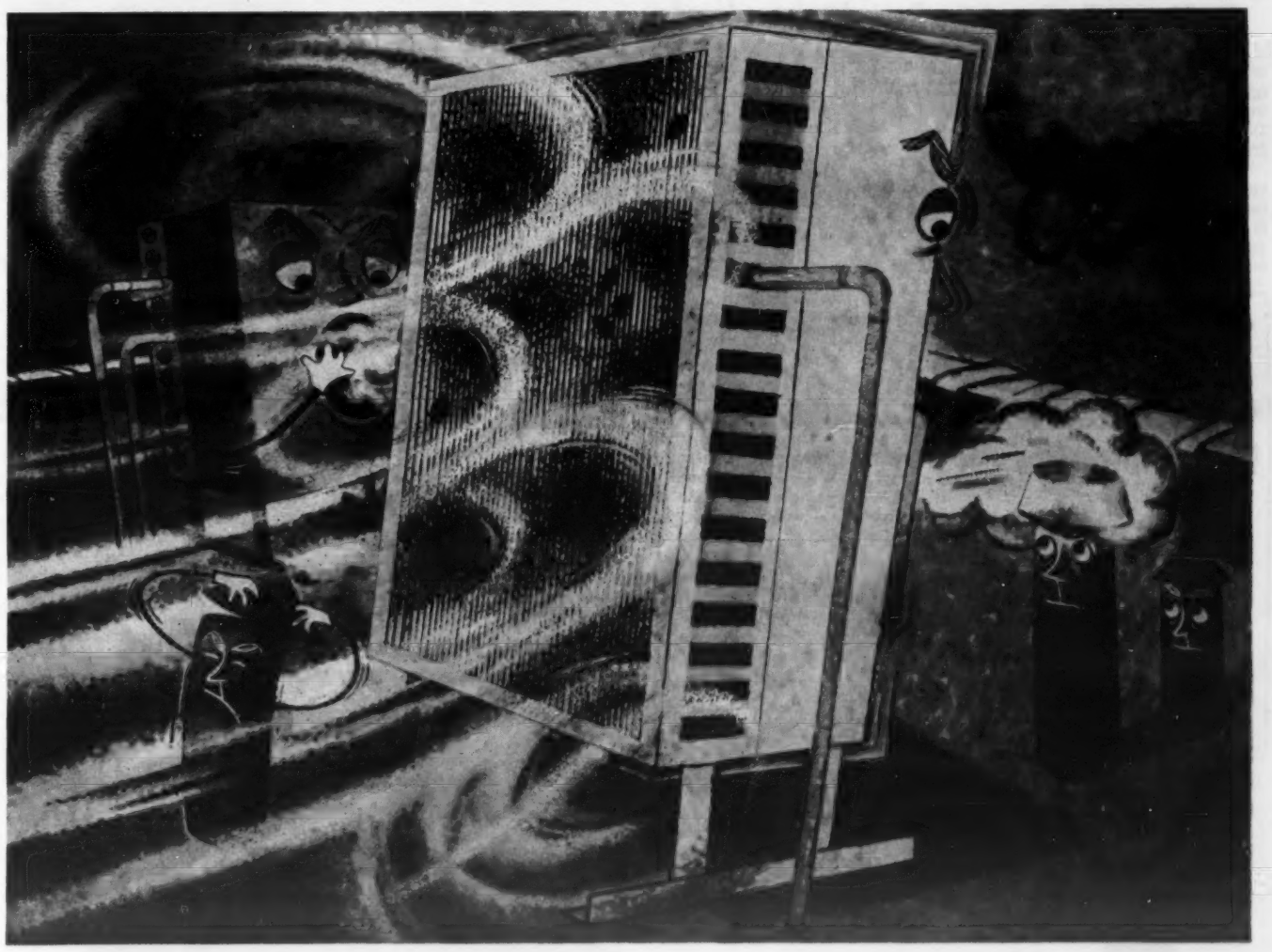
The CRMA Frozen Food Equipment Committee is composed of C. V. Hill, Jr., president, C. V. Hill & Co., chairman; John R. Caulk, Jr., executive vice president, Hussmann Refrigerator Co.; Roger D. Jacobs, executive vice president, The Warren Co.; Joseph W. Krall, president, McCray Refrigerator Co.; Robert L. Tyler, president, Tyler Refrigeration Corp.; with CRMA president, Mark Allen, secretary-treasurer, Weber Showcase & Fixture Co., serving ex officio.

Scotsman Advisory Group To Meet Nov. 5 In Atlantic City

ALBERT LEA, Minn. — The second meeting of the Scotsman, Queen Products Div., King-Seeley Corp. Advisory Committee has been set for Nov. 5 at the Hotel Shelburne in Atlantic City, it was announced by C. P. Crobaugh, Scotsman sales manager.

Eleven distributor principals will be in attendance.

The first meeting of the Advisory Committee was held last May, at which time the aims of the group were set forth by R. J. Lickteig, vice president and general sales manager of Queen Products Div., as "representing the interests of the entire distributor and dealer organization in policy discussions embracing sales, advertising, and service."



BEFORE YOU BUY, THINK:

Will your air-cooled condensers clog up fast?

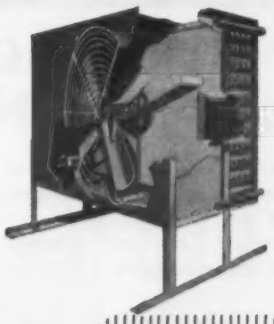
Not if they're H & M condensers with wide fin spacing

All Halstead & Mitchell air-cooled condensers and finned coils come with fins spaced wide to prevent clogging. Their exclusive Turbu-Flo fin design keeps your maintenance costs down, and improves heat transfer up to 15%.

H&M's fins are streamlined, embossed to bring about better air "wash." Since turbulence decreases resistance to heat flow through the air film, heat exchange is greater.

Finned coils come in a wide range of types and sizes: standard and non-freeze steam coils; direct expansion coils with pressure-type distributors; chilled or hot water coils. All Halstead & Mitchell coils are available from 1 to 8 rows deep, with finned heights of 12 to 36 inches, in lengths up to 10 feet.

You can order H&M air-cooled condensers in capacities of 3 to 100 tons. Be sure to specify H&M finned products from your local distributor. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



H&M AIR-COOLED CONDENSER WITH WIDE FIN SPACING

HM Halstead & Mitchell

Finned Coil Products • Air-Cooled Condensers • Water-Cooled Condensers • Cooling Towers

Four-Way Air-Flow Gas Heater Introduced

● Designed for small homes, zone heating, apartments, and motels, a new "Slim Jim" model 504 heater has been announced by the Holly-General Div. of the Siegler Corp., Dept. AH&RN, 875 Arroyo Pkwy., Pasadena, Calif.

It's described as a 50,000 B.t.u., vented, recessed, four-way air-flow gas heater.

"The Slim Jim circulates large quantities of warm air through two, three, or four outlets high on the unit," it was explained. "Gravity upflow gives quiet performance. All return-air can be taken in through the low front grille, or knock-outs may be opened on three sides for additional return-air grilles, as needed."

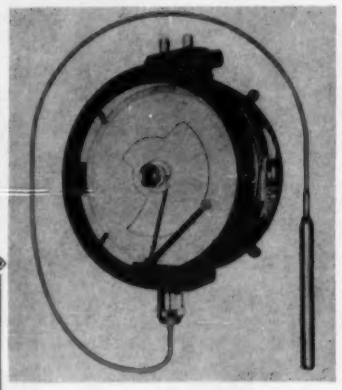
Slim Jim requires only 18 by 18 in. floor space, it was noted.

Other Holly-General gas equipment for 1960 will include the patented "NarrowWall" heater with secondary heat exchanger, two counterflow wall heaters, "Airtrol" and "Duo-trol" year-round central air conditioning equipment, and "Stubby" floor furnace.

Pneumatic Temperature Recorder Introduced

● A new recording pneumatic temperature program control, designated model RCA, has been introduced by the Partlow Corp., Dept. AH&RN, 530 Campion Rd., New Hartford (Utica), N. Y.

In addition to its control features, the model RCA is also a temperature recording instrument. It is particularly well adapted in locations where steam is used as a heating medium.



The control was designed "to fill a need for a simple and rugged method for program controlling heating appliances that would, at the same time, give accurate and sensitive proportioning valve operation, plus recording." It is available in any of ten optional temperature ranges between the extremes of -30° and 1,100° F.

Designed to actuate an air-operated throttling valve controlling the flow of steam, water, or gas or to operate other air-operated devices, the model RCA was engineered for program control using a plastic cam.

What?

a battery powered DC Hermetic?

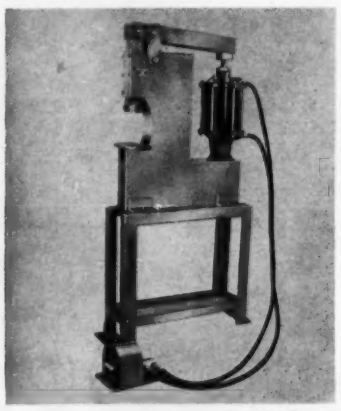
Sure . . .

Magna-Kold Booth 229

Three-In-One Kitchen Offered by Foremost

● A three-in-one "Little Giant" "kitchen" is available from Foremost Commodities Mfg. Co., Inc., Dept. AH&RN, 1472 Broadway, New York 36, N. Y.

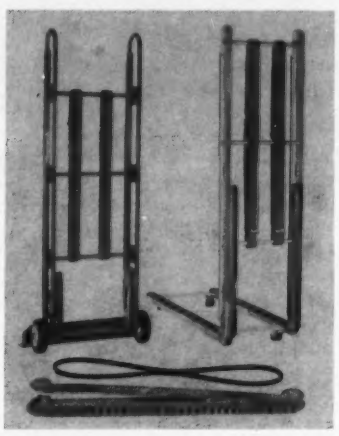
A streamlined cabinet houses a 2-cu. ft. electric refrigerator, a 2-burner electric range, and a 10 by 14 by 4½ in. deep sink. This model — #E-67/2BES — features a brushed stainless steel top and is fully automatic.



'Little Blacksmith' Bowed by Kidder

● A machine called "Little Blacksmith" 56, with 6½-ton capacity, is offered by the J. F. Kidder Mfg. Co., Inc., Dept. AH&RN, 426 Colchester Ave., Burlington, Vt.

Specifications include: Capacity 90° 2½ in. by 2½ in. notch in 3/16 in. mild steel; and notch or cut off 2 in. by 2 in. by 3/16 in. angle.



Conveyor Attachment Is For Up, Down Loads

● Development of a new conveyor attachment has been announced by Made Rite Mfg. Co., Inc., Dept. AH&RN, 4242 Beaubien, Detroit 1, manufacturer of refrigeration and piano moving equipment.

This unit can be attached to any moving device where an up and down load is used, according to the company. The attachment is designed to permit easy handling of loads on inclines, stairs, curb risers, etc.

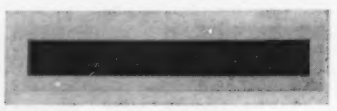
The free-moving belt and rollers will withstand loads to 500 lbs., it was stated. A heavy-duty model can be had on special order.

New Rust, Scale Solvent Announced by Necon

● Release of a new rust and scale solvent called "Necon-101" has been announced by Necon Products, a division of Northeast Consultants, Inc., Dept. AH&RN, 65 Concord St., Framingham, Mass.

"Necon-101 is a highly concentrated liquid which contains a specially prepared inhibitor," the announcement said. "This solvent will dissolve most mineral scales including deposits of lime, magnesium, rust, sodium, plaster-of-paris, and concrete—yet it will not affect pipes or steel surfaces.

"Necon-101 lends itself very nicely for descaling tankless heaters, condensers, compressors, pipe lines, engine and casting blocks, etc."



Continuous Line Diffusing Grille Added

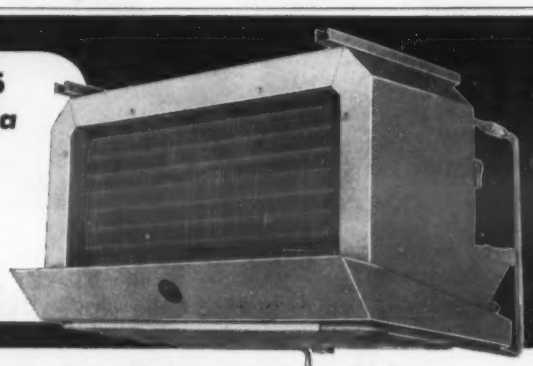
● Addition of a new continuous line diffusing grille, model STWA, to its "Uni-Flo" line of air distribution products has been announced by Barber-Colman Co., Dept. AH&RN, 1300 Rock St., Rockford, Ill.

The model is said to be "particularly effective when installed in continuous runs adjacent to large exterior glass surfaces and can be mounted in ceiling, floor, sill, or side wall. When installed in continuous runs, individual sections butt neatly together without any noticeable breaks."

The grille, featuring a sturdy aluminum, flat flange, incorporates an adjustable core which permits adjustment of the air pattern "through a simple, tamperproof setting of the fins."

4 LOW TEMPERATURE TYPES
- Direct expansion ammonia
- Flooded ammonia
- Re-circulated ammonia
- Freon

15 MULTIPLE FAN MODELS UP TO 10,725 CFM



Hot Gas Defrost Product Coolers for AMMONIA and FREON SYSTEMS

Krack's *complete line of conservatively rated* hot gas defrost units makes it easier and more economical to select the correct size coolers for your refrigeration requirements. • Krack units conservatively rated . . . no fear of underestimating • More heat transfer surface/BTU • Adequately sized motors have thermal overload protection • Greater ratio of primary to secondary surface.

Better investigate now . . . see how much you can save with a Krack installation. Use the handy coupon below.

KRACK REFRIGERATION APPLIANCES, INC.

Manufacturers of Freon, Recirculated, Flooded or Direct Expansion Ammonia Heat Transfer Equipment

MAIL COUPON FOR FREE BULLETIN HG2-658

REFRIGERATION APPLIANCES, Inc., 901 West Lake St., Chicago 7

Name_____

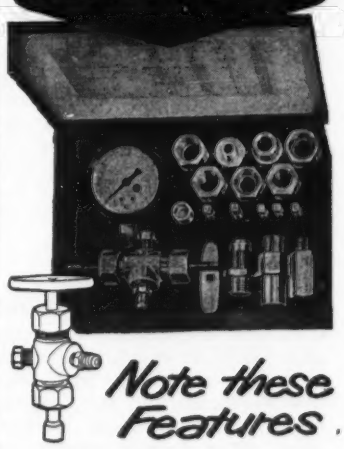
Firm_____

Street_____

City_____ Zone____ State_____

9519

NOW...
SERVICE ALL TYPES OF HERMETIC UNITS
with One Valve!
THE NEW KEROTEST HERMETIC SERVICE KIT



Note these Features.

★ Eliminates the need for a separate valve for each hermetic unit serviced. Master valve is furnished with adaptors and stem extensions to service specific units.

★ Stainless steel stem provides long service life—*at no added cost.*

★ Available with or without compound gauge in large heavy gauge steel box.

★ Many other time and cost saving features.

See your Kerotest wholesaler today.

Ask for No. 4321 or 4321G (with gauge).

KEROTEST

KEROTEST MANUFACTURING CO.
2502 Liberty Avenue
Pittsburgh 22, Pa.

What's New

Portable Gas-Fired Infrared Heater Offered

● New portable gas-fired infrared radiant heaters are being made by Perfection Industries, Div. of Hupp Corp., Dept. AH&RN, 1135 Ivanhoe Rd., Cleveland 10.

"Operated outdoors or in on bottled propane gas, the heaters produce sunshine-like warmth at low cost," the company pointed out. "Because infrared rays, like rays of light, can be directed and controlled easily, they can be concentrated on specific areas by polished parabolic reflectors without heating the surrounding air. Workmen, tools, and material remain comfortably warm even when the temperature falls to zero or below."

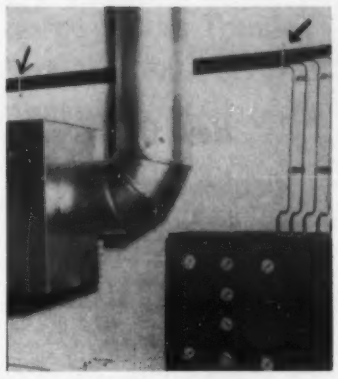
The heaters are available in three sizes, the smallest, a portable "Handi-Heater" that weighs 8 lbs. It has a rated input of 16,000 B.t.u. and operates at less than 5 cents per hour in most areas, according to the manufacturer.

Two larger sizes, rated at 24,000 and 36,000 B.t.u. input, are mounted on a vertical support rod attached to a wheeled propane bottle carrier. Seven adjustment positions are provided, from 3½ to 7 ft. high.

'Plastic Lead' Said To Save Time, Money, Labor

● An improved "Plastic Lead," said to save time, money, and labor in sealing coil pipe joints and other plumbing uses, is announced by Magic Iron Cement Co., Inc., Dept. AH&RN, 5403 Bower Ave., Cleveland 27.

The material comes in putty form. It requires no heat or mixing. Magic Plastic Lead is recommended for caulking bell and spigot joints in cast iron, water, or gas pipes. It is also said to be suitable for filling cracks.



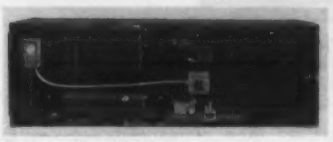
Line Hanger Bracket Reduces Time Needed

● A tradesman using the newly-developed Gough line hanger bracket installed eight runs of ⅜ in. copper tubing in 20 minutes, according to Bernard Gough Mfg. Co., Dept. AH&RN, 8020 Normile Ave., Detroit 4.

The same workman, working a few feet below the Gough installation, needed 40 minutes to duplicate the installation, using conventional methods, the company claimed.

Races against time and systems, as described have been the challenge that Bernard Gough, the inventor, has directed to heating and ventilating contractors, to demonstrate his system.

Feed lines of copper tubing, running from the boiler room of a building to the individual rooms, carry the air or vacuum necessary to activate thermostatic controls.



Gas Horizontal Furnace Line Bowed

● Announced by The C. A. Olsen Mfg. Co., Dept. AH&RN, Elyria, Ohio, a new line of Series YY "Luxaire" gas horizontal furnaces is available in four sizes—80,000, 100,000, 120,000, and 140,000 B.t.u. input.

More compact than the models which they replace, the new units feature low height for installations in low attic spaces or "crawl" spaces.

For cooling, the units have standard-equipment blowers which provide additional air deliveries compatible with the sizes of cooling coils with which these furnaces are most usually installed, the company pointed out.

New Protective Coatings Are Plastic Compounds

● The Farboil Co., Dept. AHRN, Baltimore 30, manufacturer of paints and plastics, has announced the introduction of a new system of protective coatings for the building, industrial, and marine field, called Farboil "Epothanes."

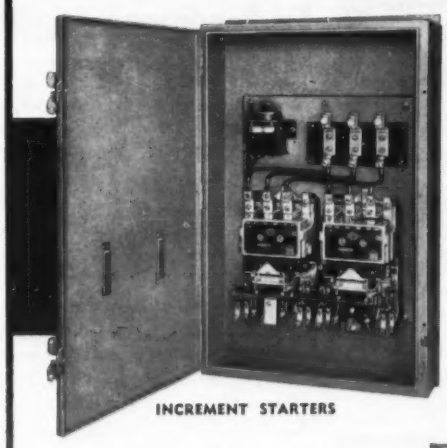
"Farboil Epothane coatings are plastic compounds which provide a tough, chemical resistant coating over wood, concrete, or metal," it was stated. "As a floor, wall, equipment, or tank coating, they provide resistance to corrosion, abrasion, solvents, impact, and chemical attack."

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

STOP OBJECTIONABLE VOLTAGE DROP!

Choose from a COMPLETE LINE of REDUCED VOLTAGE STARTERS for Air Conditioning and Refrigeration Applications

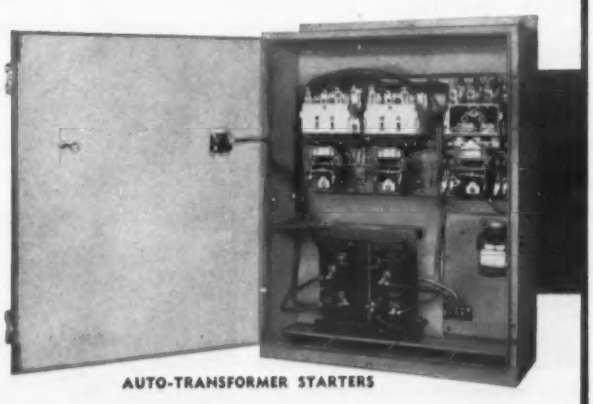


INCREMENT STARTERS

Specify **FURNAS** for your reduced voltage applications. Only Furnas Electric offers the exclusive "in-between" sizes 1¾ and 2½, plus encapsulated magnet coils, silver-cadmium oxide contacts and non-tracking arc chambers for long uninterrupted service.

INCREMENT STARTERS through 200 hp for part winding motors offer the most economical control for most refrigeration and air conditioning applications. Top quality components for long trouble-free life.

AUTO-TRANSFORMER STARTERS are furnished with closed transition starting as a standard feature, at the same price customers usually pay for open transition starting. You get more starter for your money.



AUTO-TRANSFORMER STARTERS

PRIMARY RESISTANCE TYPE STARTERS provide smooth acceleration, closed transition and high starting power factor. Designed for rugged use, they contain silver-cadmium oxide contacts, non-tracking arc chambers, tamper-proof thermal overload relays, and encapsulated magnet coils.

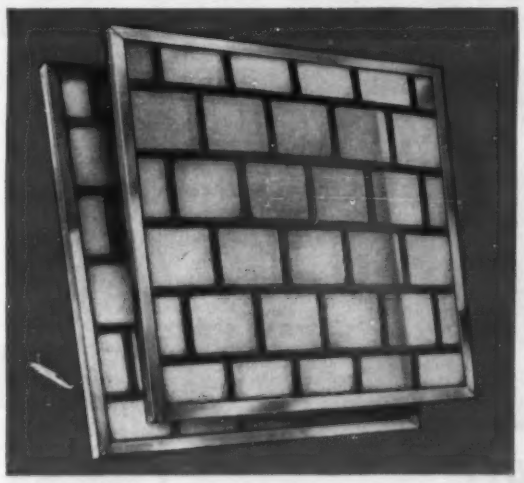
For more information, write Furnas Electric Co., 1111 McKee Street, Batavia, Illinois

A62

FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS
SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

NEW

permanent low-cost Dust-ban filter offers bigger profits for you. Bigger savings for your customers!



SKUTTLE'S HIGH QUALITY DUST-BAN OFFERS ADVANTAGES FOUND IN AIR FILTERS COSTING TWICE AS MUCH.

Increase your profits from filter sales by selling the best package deal ever offered! The new Skuttle DusT-ban Air Filter provides the finest in permanent filtration at the lowest possible price! The savings to your customers continue for years after the initial purchase, because the DusT-ban is completely washable . . . no oiling necessary. Manufactured to give years of service, the DusT-ban is designed to remove the smallest particles ELECTROSTATICALLY, yet the wide open grill permits maximum air flow at all times.

Write for descriptive literature today.

FILTER SIZES	RETAIL PRICE
16" x 20" x 1" 16" x 25" x 1" 20" x 20" x 1" 20" x 25" x 1"	$4.95 each

FREE

Check with your wholesaler on Skuttle's *FREE* filter gage offer.

As advertised in House & Garden and House Beautiful

Skuttle MANUFACTURING CO.
MILFORD, MICHIGAN

***GETTING MEN AND MATERIALS** to the job is an important phase of dealer-contractor operations. There are many ways in which time-saving and cost-cutting efficiencies can be realized by the dealer who operates more than one truck.*

This "picture story" is the second in a series showing how Frymire Engineering Co. of Dallas has applied modern business methods and practices in the sale, engineering, installation, and servicing of air conditioning systems. This particular instalment shows some of the things the Texas dealer does to get maximum use from trucks, and to hold operating costs to a minimum.

How One Dealer-Contractor Transports Men, Materials Efficiently, Economically

Early morning lineup of trucks in the parking and loading area. Each truck generally is manned by a lead man and one helper. A ton-and-a-half stake body truck with a power tail gate is used for heavy machinery deliveries. Trucks used by the superintendent and service vehicles are equipped with two-way radio equipment.

Sheet metal foreman and his crew load ductwork on the rear truck apron. Each area is marked off with painted lines and numbers, and the sheet metal parts and materials being assigned to each installation crew is placed in the respective truck parking spaces. This eliminates considerable confusion when 18 trucks attempt to load and clear out of the truck yard area by 8 a.m. each morning.

Special equipment stand, fabricated by the Frymire sheet metal department, enables the crews to rack two 7½-hp. air-cooled units one above the other. In designing it, consideration was being given to the problem of transporting it in one of the company's trucks.

As the crews load material for their assigned jobs, one important piece that must always go along with them as they start a new job is the job sign (on the ground in the left foreground). It is the responsibility of the superintendent of each crew to get a job sign up on the job the first day. "We are strong believers in construction signs," says a Frymire official. "You are familiar with the old expression 'The proof of the pudding is in the eating.'"

Truck maintenance manager gasses up a truck from the company's private pump. He is on the job one hour before starting time for the crews, and gases up all the trucks and gets them ready. Gasoline is purchased in bulk quantities, and it is the truck maintenance manager's responsibility to keep track of gasoline, oil, and truck parts. All trucks are numbered, and an accurate log is kept on what each truck costs to operate. For the most part two major makes of trucks are used, and the company has some quite good records on the performance of one make versus the other.

The truck maintenance manager performs all the truck repairs and maintenance that is possible with the equipment which he has on hand. "We were spending some $600 a month in truck maintenance parts and repairs, and it seemed obvious that we would do better if we hired our own expert mechanic," says a Frymire official. The man is also used on other company operations.

Improve Profits—With Better Methods

It is generally agreed that a major industry problem is the failure of dealers and contractors to make an adequate profit. There are some who believe that increased sales are the one and only answer to this, but many dealers and manufacturers feel that an improvement in business methods and operating procedures might produce greater profits on whatever sales volume is attained.

Much has been written and talked about by experts on the subject, and schools and other general educational methods have been devised to help the dealer. The approach of the NEWS in trying to provide some assistance will be in line with its general publication practices—to report how dealers have used modern business and operating methods to improve their volume and profits. This article is one in a continuing series.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

AT LAST! a practical fin straightening tool

FIN-COMB

by WATSCO

ALL NYLON

No more makeshift tools
No more knuckle scraping

Here is a tool designed to make fin straightening a quick, easy operation.

With a few simple strokes FIN-COMB will restore bent fins on condensers and evaporators back to their intended positions.

FIN-COMB is made of tough nylon and is designed to accommodate most units. The tooth depth and slant is an engineered feature that aids in straightening the most stubborn fins. Try one! It will soon become one of your most valuable labor saving tools.

PART NO. P-12

To introduce you to our new FIN-COMB, you can receive one FREE at the A. R. I. Exposition in Atlantic City, if you are among the first hundred to present this ad at our booth #725.

WATSCO INC VISIT OUR BOOTH NO. 725 ARI SHOW NOV 2-5

1020 E 15th STREET • HIALEAH, FLORIDA

FIND · FIX

Refrigerant* Leaks

FAST

with the

PREST-O-LITE

Trade Mark

Refrigeration and Air-Conditioning Outfit

This one handy, compact outfit is all you need to find and fix refrigerant gas leaks. Sensitive leak detector "sniffs" as little as 100 parts of halide refrigerant* in a million parts of air . . . *in seconds*, pinpoints leaks too small to show up in soapy water. Also included in the outfit are 3 sizes of torch stems for open-flame soldering, heating, and brazing; an adjustable gas pressure regulator; interchangeable torch handle; hose; enameled steel carrying case. Models for use with B or MC PREST-O-LITE acetylene tank.

*ASRE numbers 11, 12, 13, 14, 21, 22, 113, 114

$43.00 COMPLETE

PREST-O-LITE air-acetylene equipment and small tanks are available from your local supplier of LINDE products. See him today. Or write for further information to: Dept. 624, LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd St., New York 17, N. Y.

"Prest-O-Lite," "Linde," and "Union Carbide" are registered trade marks of Union Carbide Corporation.

Refrigeration Problems And Their Solution

(As Written by Paul Reed)

When Evaporator Warms Up Too Fast

QUESTION:

We just replaced a compressor on a refrigerator. We get the evaporator down to zero, but it jumps up to 20° in a matter of a few minutes. It is a cap tube job using Refrigerant-114. We draw a back pressure of about 20 in. What gives?

ANSWER:

Your letter was dated Aug. 25, and on that day the temperature in your location must have been close to 100°. So the first thing that comes to mind is that there may be nothing wrong with the unit; but that the quick rise in the evaporator temperature may have been due to a heavy heat load on the evaporator.

This might not be entirely due to the hot weather itself, but it may be adding to some other condition that increases the heat load on the evaporator. It may not have had noticeable effect until the hot weather came along. Weather such as we have been having really shows up weaknesses in refrigerating equipment that get by in normal weather.

For example, the door gasket may be flattened, or the latch or hinges may be loose, thus letting in an excessive amount of hot, moist air. In normal summer weather the unit may be able to handle the extra load and still maintain good temperatures; but not on 100° days.

Also check the rear of the cabinet; there may be some poor fits that are letting in an excessive amount of hot, moist air. An excessive amount of moisture can require a lot of refrigerating capacity to condense out of the air and freeze into frost or ice.

Then too, in a hot spell, the heat leakage on the cabinet is great, especially if there is some canning going on in the kitchen. Hot foods and hot dishes are apt to introduce more heat into the refrigerator than on normal days.

Also, do not overlook the ice cubes. Cold drinks are in extraordinary demand, thus throwing extra load on the evaporator.

Excessive heat load may not be the reason for the rapid rise in temperature of the evaporator, but it is certainly a distinct possibility that should be checked before condemning the unit—especially during weather like you were having at that time.

UNDERCHARGE OF REFRIGERANT

However, the most probable cause of the quick rise in the temperature of the evaporator is an undercharge of refrigerant. You mention that the suction pressure is about 20 in. of vacuum. Presumably this is the suction pressure at about cut-off.

With Refrigerant-114, this corresponds to an evaporator temperature of about -8°. You state that it was about 0°. Some of the difference could be due to the thermometer not being able to read refrigerant temperature. Nevertheless, it sounds as if the evaporator is not fully active even toward the end of the cycle. If this analysis is correct, the running cycles must be quite long, even during normal weather.

Moreover, when the unit stops, there is little or no liquid left in the liquid line and capillary tube, so the hot gas from the condenser quickly flows into the evaporator causing the evaporator to warm up more quickly than normally.

With a normal charge of refrigerant, there is some liquid left in the liquid line and capillary tube when the unit stops. This continues to flow into the evaporator, giving additional refrigeration, and also allowing a little time for the condenser to cool before the liquid line and capillary tube are free of liquid.

In changing the compressor, you probably lost some refrigerant, and did not add quite enough.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Norge Service Training System Is 'Pre-Packaged'

CHICAGO—A new "pre-packaged" service training system which includes films and booklets for dealer use at home and on the job is being made available by the Norge Div. of Borg-Warner Corp.

"Meetings can be set up in a few minutes for servicing dealers, making service training almost as automatic as appliance operation," said Elmer G. Fenton, Norge director of national service.

Included in the system's kit are over 650 colored slide films, tapes or records, a film case for carrying to "on location" meetings, and booklets.

The new Norge service training system may be obtained through Norge distributors and will be made available to accredited industrial and trade schools.

WHAT . . WHEN . . WHERE

Refrigeration Service Engineers Society Convention
Oct. 30-Nov. 2, Atlantic City, N. J.

Air-Conditioning & Refrigeration Institute Membership Meeting
Nov. 1, Haddon Hall, Atlantic City, N. J.

Air-Conditioning & Refrigeration Wholesalers Meeting
Nov. 1-2, Atlantic City, N. J.

National Commercial Refrigerator Sales Association Convention
Nov. 2-4, Traymore hotel, Atlantic City, N. J.

11th Exposition of the Air-Conditioning & Refrigeration Industry
Nov. 2-5, Convention Hall, Atlantic City, N. J.

National Hotel Exposition
Nov. 2-6, Coliseum, New York City.

National Electrical Manufacturers Association Meeting
Nov. 9-13, Traymore hotel, Atlantic City, N. J.

The Institute of Boiler & Radiator Manufacturers Meeting
Week of Nov. 9, Seaview Country Club, Absecon, N. J.

National Warm Air Heating & Air Conditioning Association Meeting and Convention
Dec. 1-4, Chase Park-Plaza hotel, St. Louis.

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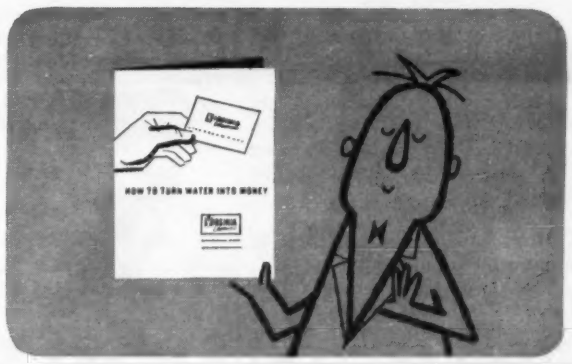
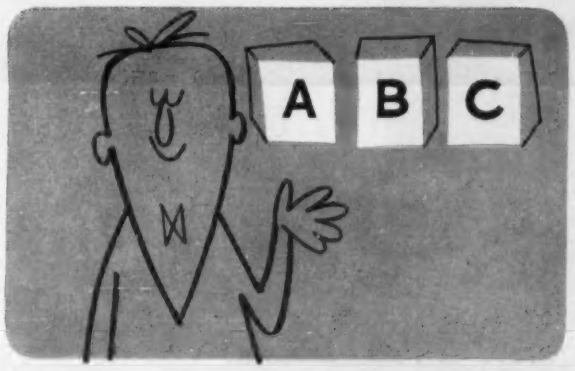
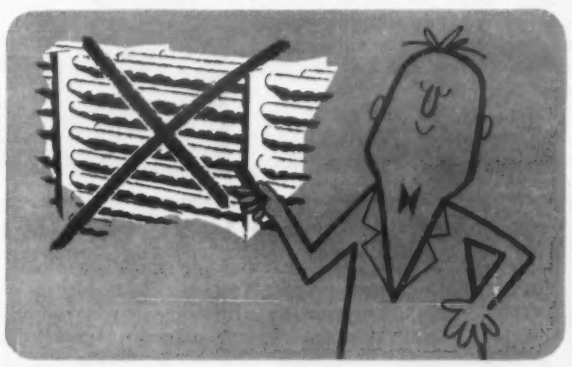


It's true. You can increase business volume from your present accounts and open up new customers as well—prevent "poaching" by competitors. You can literally "Turn Water into Money" with the new "Virginia" plan of water treatment service. Here's how you can do it—



(1) Convert your water treatment business from an emergency call basis to a steady service; (2) spot potential mechanical failures before they actually occur; (3) offer a service your competitors cannot match; (4) make yourself so valuable to your customers that they won't think of shopping elsewhere.



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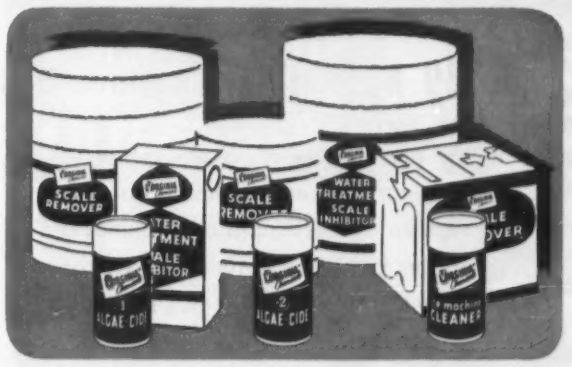

Other "Virginia" chemicals for reliable water treatment service include Solid and Liquid Scale Removers, Algae-Cides #1 and #2, and Ice Machine Cleaner. Your wholesaler stocks them. For your free copy of the folder, "How to Turn Water into Money," write Refrigeration Division, VIRGINIA SMELTING COMPANY, 133 Jefferson St., West Norfolk, Va.

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TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Principles Behind Refrigeration Piping Practices

Installation men know refrigeration piping—at least the practice of it.

It is not unusual for a man to know exactly where to place traps, separators, where to reduce and enlarge line sizes, and yet not know the principles behind these practices. The installation/serviceman "has a good working knowledge of equipment, but often fails to understand the basic principles by which it operates," is the way RSES states it in one of its study guides.

In a series of basic and practical questions and answers, the study guide presents valuable information and indicates the level of training available from the RSES Study Course.

Why is design and sizing of the suction line so important?

The suction line plays an important part in the rapid return of oil to the compressor.

Is the paralleling of evaporators the same as the paralleling of compressors?

No, each practice has important design features of its own.

Why should suction lines be trapped at the coil outlet?

To prevent remaining refrigerant vapors from condensing and draining directly into the compressor.

Where on the suction line should the TEV bulb be located?

On the side, rather than on the top or bottom.

What precautions should be taken when evaporators are stacked in banks?

The suction line must be trapped to prevent draining vapors from the upper coil, thus affecting the lower one.

How often should traps be installed in a suction riser?

At the bottom of the riser, and every 30 ft. or less, preferably every 10 or 12 ft.

How will the oil and refrigerant contained in the suction line traps be returned to the compressor?

They will gradually be carried along by the velocity of the suction vapors through the open portion of the trap.

What might happen if a long suction riser were not trapped?

The oil and refrigerant collected during the off-cycle might return to the compressor in a slug when the compressor starts, causing considerable compressor damage.

With capacity control and cylinder unloading, what could be the result of running with the capacity greatly reduced?

The velocity of the suction gas might be below that necessary to entrain and return sufficient oil to the compressor.

Why is oil return so important with high-speed compressors?

They have forced lubrication to bearings. Without sufficient oil, bearings will be damaged within minutes.

How can proper oil return be maintained during periods of reduced capacity operation?

By using a double riser with the smaller pipe sized to the compressor's minimum capacity, and the larger pipe trapped.

What arrangement should be used when piping double risers into the main suction line?

Riser lines should enter the main suction line from the top, and the main suction line should pitch toward the compressor 1 in./20 ft.

What is the purpose of the trap in the larger pipe of a double suction riser?

When velocity decreases, oil separates out of the suction vapors, sealing the trap, causing the vapors to pass up the smaller pipe.

How can pressure drops be minimized in making offsets?

Use two 45° elbows rather than 90° elbows, or use a bending tool on tubing up to 1⅛ in.

How does the pressure drop across an angle valve compare with that across a globe valve?

Angle valves have about one half the pressure drop of globe valves.

What is the normal maximum pressure drop in the suction line for an air conditioning installation?

Two p.s.i.g.

What is the normal maximum allowable pressure drop for the liquid line in an air conditioning application?

Five to 7 p.s.i.g.

What rule should be followed in running suction lines over 50-ft. long?

Use the recommended line size for the first 50 ft., and increase to the next larger size for the rest of the run toward the compressor.

Why must oil equalizing lines between compressors be located at the minimum oil level?

To insure that a slight difference in crankcase pressures will not lower the oil in one of the compressors below its minimum operating level.

How can traps be prevented in gas equalizing lines between compressors?

Lines should be pitched downward from the center toward each compressor, and rigidly supported.

When installing compressors in parallel, what provisions should be made to allow removal of either compressor?

There should be a valve in each line, with a means of disconnecting at each compressor so the other compressor can be left in service.

Why should the oil return pipe from an oil separator never enter the compressor below the oil level?

Liquid refrigerant may leak through, causing agitation and foaming of the oil and possible compressor damage.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

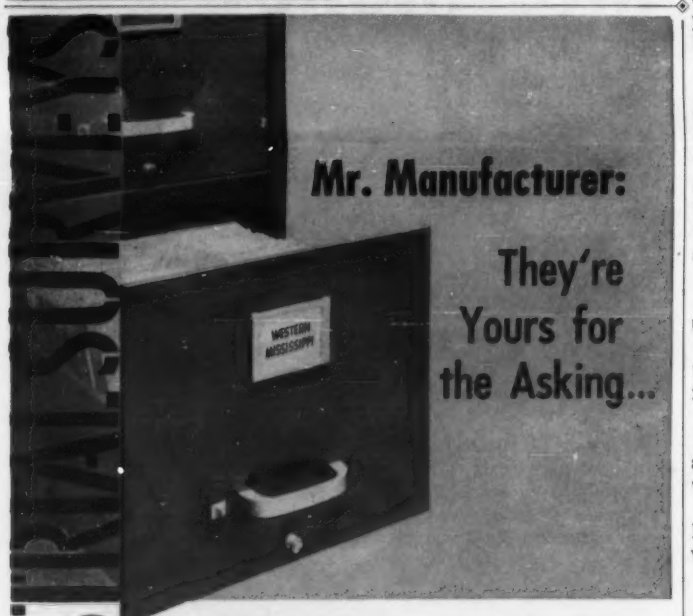
Applied Electrical Theory

Why does an electric motor start in the same direction every time? Where and why do we have the several utilization voltages? How does a solenoid work? A capacitor? What is the meaning of phase?

Questions about electricity are inescapable in the design, selling, or service of heating and cooling equipment. Each man must decide for himself his ratio of operational-to-theoretical knowledge of things electrical, but all need at least a nodding acquaintance with the fundamentals.

Beginning next week, Tech Center will discuss electrical theory and its practical applications in the heating-cooling industry.

COMPLETE INDUSTRIAL SURVEYS



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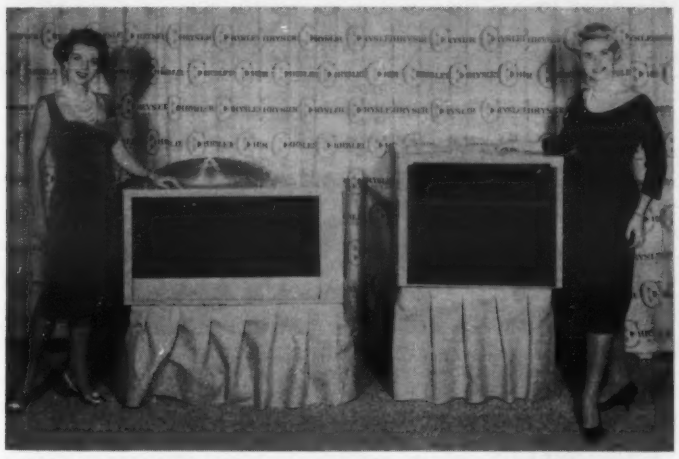

ADDITION TO AIRTEMP PACKAGE unit line is a 2½-hp. model, available either for split systems (condensing unit section shown at left) or in complete package (front view of which is shown at right). A 4-hp. model of similar design has also been added.

ABOVE is the new 1960 Chrysler Slender room air conditioner, available in nine models and five capacities, from 7,000 to 12,000 B.t.u.h.

NEW 3-HP. PACKAGED heat pump was among new products introduced for 1960 by Airtemp Div., Chrysler Corp. Quiet centrifugal blowers permit the ducting of condenser air so that units may be installed within homes of certain construction, as well as in interior office space. Unit may be obtained with a year-round thermostat.

Airtemp Introduces Lines for 1960--

(Concluded from Page 1, Col. 5)

since President Paul Augenstein and he had assumed management of the company's operations.

In that year, he stated, sales of package air conditioners had increased 78%, split systems were up 88%, room air conditioners 244%, and heating equipment 51%.

In the product lines, the new 3-hp. packaged heat pump, rated at 35,000 B.t.u., incorporates such features as quiet centrifugal blowers on both evaporator and condenser, permitting the ducting of condenser air so that units may be easily installed in hip-roof type homes and interior offices, with a removable blower section making for easier handling.

New Refrigerant Control Improves Performance Over Wider Range

A new refrigerant control device is said to provide for better performance over a wide range of operating conditions. The 3-hp. heat pump may be obtained with an electric heating element and a year-round thermostat.

The 5-hp. split-system heat pump is available with a 9.6 or 19.2 kw. electric heater. Its weather hood is fiber-glass insulated. A summer-winter thermostat has a check light to indicate any failure of safety controls. This heat pump is built for operation down to 0° F., it was stated.

Condensing unit in the 5-hp. heat pump has features which are also found in the new 2½-hp. and 4-hp. units. These include new aluminum compressor and crankcase heater, permanently lubricated bearings, a strainer dryer, heavy-plated fans to protect against weather, and an automatic re-set. Compressors are dual voltage (208 and 220). Control panels are completely wired at the factory.

The new commercial, water-cooled packaged units in the 22-ton to 32-ton range have positive, year-round humidity control design characteristics and electronic safety devices. They permit front or rear air return, and are designed for the internal mounting of steam or hot water heating coils. They can be used either in space or outside.

New design features in the smaller air-cooled packages for residential or light commercial applications include centrifugal blowers on both the evaporator and condenser, blower section removable for easier handling, U.L. approval for outside installation, "real flexibility" of air intake and discharge arrangements on both evaporator and condenser for handy installation, and new die-cast compressor providing greater capacity.

Room Air Conditioner Line

The lineup of 1960 model Airtemp room air conditioners is made up of the following series of models:

1. The Slender. Geared to achieve the majority of sales, the Slender series consists of nine models covering five different capacities ranging from 7,000 to 12,000 B.t.u. capacity. The Slenders are 17¾ in. deep, 16⅜ in. high, and 27 in. wide, and can be mounted flush on either the inside or outside.

Two of the nine models are 1½ hp., the remainder 1 hp. Two reverse cycle models permit supplemental heating during cold weather, providing 8,400 B.t.u. for cooling and 7,900 B.t.u. for heating.

2. The Power King. This series offers models with top cooling capacity. There are eight models in five capacity ranges (11,000 to 22,500 B.t.u.). Models have 1, 2, and 2½-hp. compressors and all are for 208 or 230-volt circuits.

FOR 1960, the Chrysler Casement room air conditioner above, is a 1-hp. unit with a capacity of 6,000 B.t.u.h., and operates on 115 volts. The only tool needed to install the Chrysler Casement is a screw driver.

Top capacity Power King models are 20⅞ in. high, 26½ in. wide, and 35⅛ in. deep. The others are 15¾ in. high, 26½ in. wide, and 31¼ in. deep.

3. The Casement series. Casement window models are offered in two categories—the Chrysler Royal, a high-styled model with special features, and a lower-priced Chrysler Casement. The Royal is available in capacities of 6,000 and 7,700 B.t.u. for 115-volt operation and features automatic thermostat, two-speed fan, fresh air and exhaust, and four-way control over air direction.

The Chrysler Casement has a capacity of 6,000 B.t.u. Both models use a 1-hp. compressor, and all have the same dimensions: 36¼ in. high, 16¾ in. wide, and 12⅝ in. deep.

4. The Built-In. There are nine models of five capacities in this series for in-wall installations. B.t.u. output ranges from 7,000 to 12,000 for cooling and 7,900 for heating in reverse cycle models. As with the Slender series, additional electric heat in one model boosts the B.t.u. figure for heating to 10,000. All units fit in the same wall sleeve—16½ in. high, 30⅜ in. wide, and 17⅞ in. deep.

Grilles in all but the low-priced casement feature a new design "golden wire" grille. An improved "Climate Minder" on 1960 room units consists of a dual bulb thermostat, one element sensing dry bulb temperature and the other wet bulb temperature. During high humidity operations, the wet bulb corrects the dry bulb temperature, making it operate as if room temperature were actually higher.

New in the Airtemp heating line are three gas-fired lowboy models in striking color combinations for installation in basement recreation rooms or living areas. These models are only 45 in. high, thus permitting a cooling combination that will fit in a 6-ft. basement. They can also be equipped with an electrostatic filter, a charcoal filter, and a sterile lamp.

Five new oil-fired horizontal furnaces are included in the line, and the low highboy models have been redesigned for higher air distribution volume.

All through - the - wall units will be handled through the Applied Machinery & Systems Div., and the Warren-Webster Co. has been granted an exclusive license to market the through-the-wall units as "Webster Newports." However, distributors will be given a fee for leads on such units.

The "Risk Protection Plan" on inventories will cover stocks in the hands of qualified dealers as well as distributors, and will also provide price protection.

The national accounts department will continue to function, but will be directed to work with distributors on government and other types of national accounts.

7 sizes

Part No.	I.D.	O.D.
110	.031	.083
111	.036	.087
113	.044	.109
114	.050	.114
115	.055	.125
116	.064	.125
117	.070	.125

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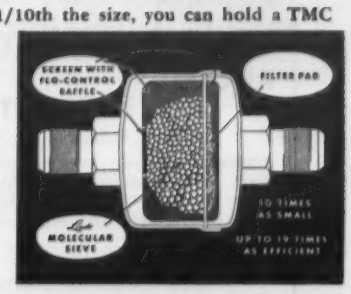

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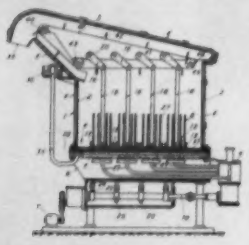
PATENTS

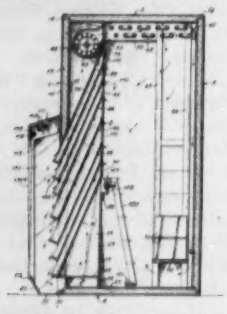
Week of June 16

2,890,572. ICE MAKING MACHINE. Federico Richelli, Milan, Italy.



1. A machine for producing ice comprising a thermally insulated tank adapted to contain a predetermined level of water to be transformed into ice, a plurality of groups of freezing plates, an ejector means associated with of said groups of freezing plates; said freezing plates being completely disposed within said tank below said level. . . .

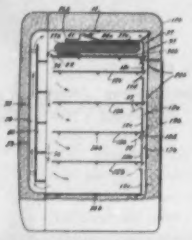
2,890,573. UPRIGHT REFRIGERATOR SHOWCASE. Frank G. Lamb, Milton-Freewater, Ore.



7. In an upright refrigerated showcase and dispensing cabinet for frozen food packages, a series of trays to receive said packages, cooling means for maintaining the interior of said showcase at a predetermined, low temperature, means for passing cooled air over said trays and in direct contact with at least one surface of said packages, means to permit loading of said trays from the inside of said cabinet, said last named means including a pivoted closure means on the rear of each of said series of trays. . . .

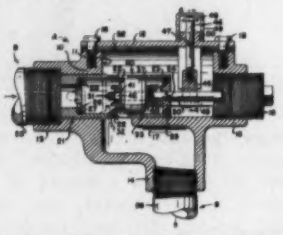
2,890,574. FROST ATTRACTOR FOR REFRIGERATORS. Harry A. Whitesel and Warren R. Bower, Cedar Rapids, Iowa, assignors to Amana Refrigeration, Inc., Amana, Iowa.

1. In a refrigerator, a cabinet providing a storage compartment closed to the atmosphere and having a front opening, a primary evaporator effective for maintaining the space within said compartment at a predetermined storage temperature, a door normally closing said opening and providing a side wall of said compartment, a plurality of spaced shelves in said compartment spaced inwardly from said door and



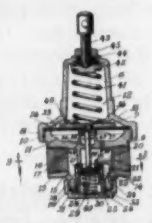
with the front of the spaces therebetween substantially unobstructed. . . .

2,890,712. SAFETY GAS VALVES. Frederick D. Bowen, Joplin, and Gleason B. Bowen, Monett, Mo.



1. A one-seat gas valve, including a valve housing defining a valve chamber and provided with spaced-apart gas entry and exit ports and a valve seat disposed intermediate said ports, an elongated valve cage within the chamber, carried by the housing intermediate said ports and having an annular interiorly-disposed should upon which said valve seat is mounted and a cylindrical side wall provided with a plurality of spaced-apart elongated openings extending longitudinally thereof and in direct communication with said exit port. . . .

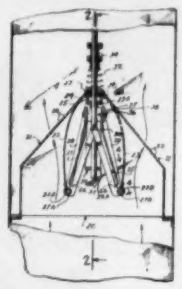
2,890,713. FLUID PRESSURE REGULATORS. Albert L. Semon, Short Hills, N. J.



1. In a fluid pressure regulator, a casing arranged with an inlet and an outlet, a valve interposed in the casing between the inlet and the outlet for controlling the flow of fluid from the inlet to the outlet and yieldingly urged to closing position, a diaphragm chamber in the casing having an opening in a wall thereof in communication with the flow of fluid in a low pressure zone between the valve and the outlet. . . .

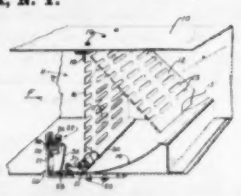
2,890,716. CONTROL DEVICE. Ernest A. Werder, Rego Park, N. Y., assignor to Buensod-Stacey, Inc., New York, N. Y.

1. A device for controlling fluid flow in an air conditioning passage or the like, said device having a path of flow therethrough, comprising swingable flexible means movable in said path of flow, motion limiting means for said



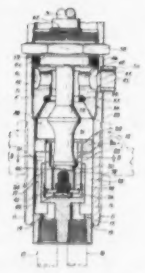
flexible means in said path of flow, said limiting means having air passage means therethrough. . . .

2,890,717. FLOW CONTROL DEVICE. Ernest A. Werder, Rego Park, N. Y., assignor to Buensod-Stacey, Inc., New York, N. Y.



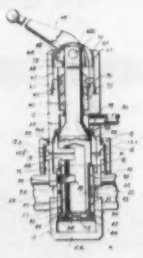
1. A device for controlling fluid flow through a duct comprising a fixed, rigid sheet extending across the duct, a flexible curtain extending across the duct at the upstream side of said rigid sheet and being suspended, at its upper edge, from the top of the duct adjacent the upper edge of said rigid member, said rigid sheet being formed so that it generally diverges downwardly away from said flexible curtain when the device is in open position. . . .

2,890,719. MIXING VALVE CONSTRUCTION. Alfred M. Moen, Elyria, Ohio.



A valve structure of the character described comprising a one-piece tubular housing, a plug-like body fitted and permanently sealed in the lower end portion of said housing, a steam mounting plug removably fitted in and sealing the upper end of said housing thus providing a mixing chamber in said housing between the stem mounting plug and said plug-like body. . . .

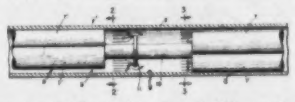
2,890,720. VALVE STRUCTURE WITH TWO PART HOUSING. Alfred M. Moen, Elyria, Ohio.



1. A valve structure comprising in combination, a water supply fitting formed with a passage therethrough and with hot and cold water inlets opening into said passage at opposite sides thereof, an exteriorly threaded neck portion surrounding one end of the passage, a valve housing applied through and fitted in said passage in a water tight joint; said housing enclosing a valve chamber in one end thereof. . . .

2,890,722. HEAT EXCHANGER TUBE. Frederick A. Loebel and Reid Ewing, Milwaukee, Wis., assignors to Cleaver-Brooks Co., a corporation of Wisconsin.

1. A heat exchanger tube comprising; a relatively long cylindrical outer tube, a pair of tubular fin sections disposed longitudinally in series relation within said outer tube, each of said fin sections including a plurality of inner tubes having their axes parallel to the axis of the outer tube and having



ing pressed metal to metal contact with the outer tube for heat conduction to the interior thereof. . . .

(Continued on next page)

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

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POSITIONS WANTED

SALES ENGINEER twelve years' responsible air conditioning contracting experience in sales, engineering, management, and labor relations. BS in ME. Registered engineer in Texas and Louisiana. Will consider association with contractor, manufacturer, or manufacturer's representative in growth area. Thorough knowledge of Carrier and other equipment, including reciprocating, absorption, and centrifugal. Reply directly to AL GOODELL, 3065 19th, Beaumont, Texas.

MANUFACTURER'S AGENT with 25 years' experience selling to air conditioning & refrigeration wholesalers & O.E.M. accounts—Has opening for one additional line to this trade—Covering North Jersey & Metropolitan New York—Will attend "All Industry Show" in Atlantic City—Can arrange for interview at show. Use BOX A6372, Air Conditioning, Heating & Refrigeration News.

WANTED OPPORTUNITY to affiliate with reliable plumbing or sheet metal distributor or contractor. Twenty years' experience, estimating, selling, installing and servicing industrial, commercial, residential, refrigeration, heat pump and air conditioning systems. Will furnish all necessary tools, equipment including service truck, will relocate. Write BOX A6381, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

ACI PLANS extensive sales program for 1960. Realignment of territories makes choice areas available now for established manufacturer's agents. Air conditioners, heat pumps, chillers, condensing units, condensers, plus newest roof mounted year-round conditioner, makes line very attractive. Visit Booth #401, ARI Show, Pete Hatcher, Sales Manager, AMERICAN COILS CO., Farmingdale, N. J.

CABINET ENGINEER — To assume complete responsibility of refrigerator cabinet engineering. Requires knowledge of sheet metal fabrication and tooling. Also requires understanding of the use of materials such as plastics and aluminum; use of assembly methods applied to refrigerators. Forward resume of qualifications to: FRANKLIN MANUFACTURING COMPANY, 65 - 22nd Avenue N. E., Minneapolis, Minnesota.

MANUFACTURER REPRESENTATIVES needed in several Eastern and Midwestern states (without representation at present) to take on line of 46 models automatic icemakers and 3 models automatic slush freezers. Prefer experienced agents with contacts in commercial refrigeration and restaurant and hotel supply trade. Liberal commission set-up. Reply giving full resume of experience and lines currently handled, to POLAR CHIPS MANUFACTURING CO., P. O. Box 4398, Fort Worth, Texas.

AIR CONDITIONING service man qualified to service air conditioning systems. Knowledge of controls, air balancing, refrigeration, and heating components necessary. We are a medium sized air conditioning contractor with exclusive Carrier dealership. Top wages and steady immediate employment to right man. Send resume to THERMODYNE CORP., 1551 Cota Avenue, Long Beach 13, Calif.

SALES ENGINEER — State of California — representing air conditioning and heat pump manufacturer—full line. Must be now living in territory. Aggressive—with proven successful background establishing dealers and distributors. Full knowledge of air conditioning. Salary and expenses. Send complete resume to BOX A6373, Air Conditioning, Heating & Refrigeration News.

SERVICE MANAGER wanted by old established air conditioning & heating contractor in Chicago. Must have the ability to manage a well established existing service department covering commercial and industrial installations and maintenance contracts. Reply BOX A6377, Air Conditioning, Heating & Refrigeration News.

SALES MANAGER — Chicago district, for large top rated manufacturer of condensing units, chillers and packaged air conditioners. Must be experienced. Salary, commission, car, expenses. All of our employees know of this ad. Give complete information first letter. BOX A6378, Air Conditioning, Heating & Refrigeration News.

WANTED — MANUFACTURER'S representative for complete line of refrigerants in Michigan, Ohio, and western Pennsylvania. Must have established contacts with refrigeration wholesalers. In reply give other leading lines represented. BOX A6379, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash closeout basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, New York, ORegon 3-7210.

WE WILL purchase your excess and surplus expansion, water solenoid valves, temperature & pressure controls, fan motors, magnetic starters, relays, hermetic heads, unit coolers—all supplies. Turn obsolete stock into cash, save valuable space. Write, R & R EQUIPMENT CO., 172 Willis Ave., Bronx, N. Y.

SURPLUS PARTS wanted. Pay cash. Compressors, valve plates, and parts for all makes. New or used and repairable. Brunner, Copeland, Carrier, Copelametic, General Electric, Universal and others. Send full description as to Model No., Part No., Horse-power, etc. UNITED REFRIGERATION CORPORATION, 514 W. 12th St., Los Angeles 15, Calif.

EXPORT FIRM located East Coast is interested in large size close-outs or surplus lots of first quality Refrigeration and Air Conditioning Materials (units, compressors, parts, supplies, relays motor and tools). Write to BOX A6380, Air Conditioning, Heating & Refrigeration News, giving full details and prices.

EQUIPMENT FOR SALE

USED BUT not abused refrigerators—Westinghouse—Frigidaire—G.E. 4 cu. ft. Mixed or solid trailer loads. Price del'd to your door approx. $25.00 ea., depending on distance from New York. Larger sizes also available—Slightly higher. AJAX, 9602 Ditmas Ave., Brooklyn 36, New York, HYacinth 8-6121.

INDUSTRIAL REFRIGERATION — units designed for cutting tool cooler, can be adapted for any liquid cooling. Chrysler Airtemp, model PL300, size 250# pressure. Sealed compressor & motor unit—3 hp. 3 phase, 60 cycle. Equipped with condenser, controls and heat exchanger tanks. BEEKIL BROTHERS, 5220 N. Christiana Avenue, Chicago, Illinois.

300,000 B.T.U.—$475.00, horizontal unit heater with 2-row steam coil; double centrifugal fans provide up to 6,000 C.F.M. @ 1½" total static pressure; motor, filter racks, freight extra—other sizes & coils. MAUER ELECTRIC CO., Liberty, New York.

FOR SALE: Air conditioning 2 hp. hermetic compressors—Model HB200 230 V. 60 cy. 1/phase F-22. Complete with electrical "Power Pack". $79.00 ea. F.O.B. Chicago, Illinois. WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

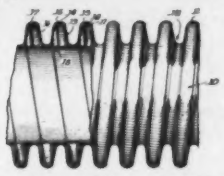
MILLS ICE cream freezer parts. Write for inventory. Sell all or part. THERMAL PRODUCTS, INC., 329 Glendale Blvd., Los Angeles 26, California.

BUSINESS OPPORTUNITIES

FOR SALE—Refrigeration & air conditioning business. Commercial and industrial. Established for twelve years in Southern California. All stock & equipment including truck. BOX A6375, Air Conditioning, Heating & Refrigeration News.

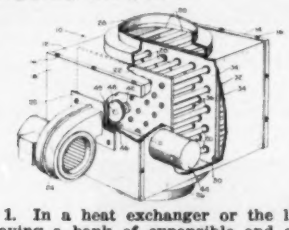
(Continued from preceding page)

2,890,723. MULTIPLE WALLED FLEXIBLE TUBING. Karl H. Evert, Bartlett, Ill.



1. A thin multiple walled flexible tube in corrugated form composed of a plurality of strips of profiled metal in superimposed relation with respect to each other and having overlapped adjacent edges and welded together at the said overlapped edge portions of said strips each wall being continuous throughout the length of the tube.

2,890,862. APPARATUS FOR CLEANING TUBES OF HEAT EXCHANGER. Anton H. Heller, Levittown, N. Y., assignor, by direct and mesne assignments, to BO-AN Heat Reclaimer Corp., Bay Shore, N. Y.



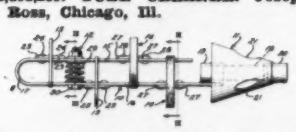
1. In a heat exchanger or the like, having a bank of expansible and contractible heat exchanger elements, a cleaning apparatus movable lengthwise of said bank of elements, said apparatus comprising a center guide member, a pair of plates secured to opposite sides of said guide member to secure the same from movement relative thereto, a plurality of spaced sets of openings defined in said plates and member. . . .

2,890,864. HEAT EXCHANGER. Robert C. Stutz, Buffalo, N. Y., assignor to Niagara Blower Co., New York, N. Y.

1. A frameless heavy duty heat exchanger of the character described, comprising, a plurality of vertical rectangular one-piece sheet metal panels forming substantially the sole structural members constituting the side and interior walls of the enclosing and supporting casing and each panel having laterally flanged edges, means extending through said flanges for securing said panels together to join said panels in abutting relationship with one another to form said side walls. . . .

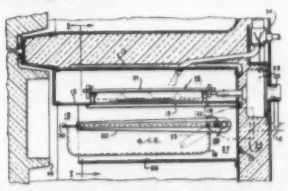
Week of June 23

2,891,269. TUBE CLEANER. Joseph F. Ross, Chicago, Ill.



1. A tube cleaner which comprises an elongated substantially U-shaped body member, one of the legs of the member being longer than the other and having a cone-shaped guide attached to the free end thereof, a plurality of horseshoe-shaped scraper blades secured to and straddling said legs individually and having the center points on the blade edges in oppositely disposed relation, and spring means urging the scraper blades outwardly.

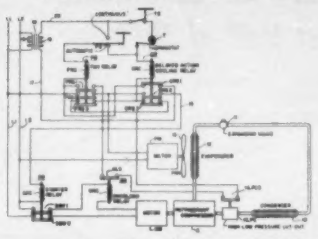
2,891,385. ICE MAKER. James K. Nelson, Grove City, Ohio, assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. The combination with an automatic ice maker adapted to manufacture and discharge ice pieces, and a container for storing ice pieces produced by said ice maker, of a movable carrier adapted to support said container in a position within the path of movement of the ice pieces discharged by said ice maker, said carrier being movable in one direction under the weight of said container. . . .

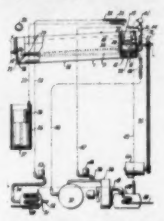
2,891,386. SAFETY CIRCUITS FOR ELECTRIC MOTORS DRIVING REFRIGERANT COMPRESSORS. William R. Winter, Staunton, Va., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.

1. A control circuit for an electric motor driving a refrigerant compressor of an air conditioning unit, said compressor having a safety switch responsive to refrigerant pressure, said motor having a starter relay with a switch for connecting said motor to an electric power source, and having



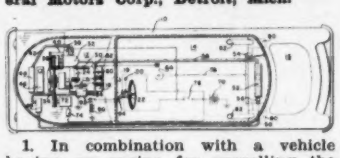
an overload relay with an energizing coil connected between said starter relay switch and said motor. . . .

2,891,387. CUBE ICE MACHINE. John B. Cocanour, Reno, Nev.



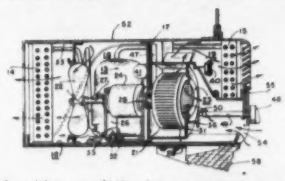
3. In a machine of the character described, a channel having a bottom formed of a flattened tube of high heat conducting material and having side walls secured upon the side edges of the tube and made of material of lower heat conductivity.

2,891,388. VEHICLE AIR CONDITIONING APPARATUS. Henry W. Boylan, Flint, Mich., assignor to General Motors Corp., Detroit, Mich.



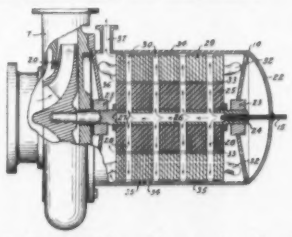
1. In combination with a vehicle having an engine for propelling the vehicle and having a passenger compartment to be conditioned, means including a shift lever for controlling the propulsion of said vehicle by said engine, said shift lever having a neutral position in which no power is transmitted from said engine for propelling said vehicle, a refrigerating system including a compressor, a condenser, and an evaporator connected in refrigerant flow relationship. . . .

2,891,389. AIR CONDITIONING APPARATUS. Robert H. Tull, Wilbraham, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. Air conditioning apparatus comprising, in combination, a substantially flat base member, a refrigerating system including a motor-compressor, a condenser and an evaporator mounted on said base member with the condenser and the evaporator adjacent, respectively, the back and front edges of the member. . . .

2,891,391. REFRIGERATED HERMETICALLY SEALED MOTORS. Erich J. Kocher, Milwaukee, and Whitney I. Grant, Mukwonago, Wis., assignors to The Vilter Mfg. Co., Milwaukee.



7. In a refrigerating system having an evaporator and a main condenser cooperable therewith and being provided with a purging unit operable to remove air from the refrigerant confined within the system, a compressor having a rotary impeller for withdrawing refrigerant from the condenser and for delivering the same into the evaporator, and an electric motor having a rotor drivingly connected directly to said compressor impeller and a stator surrounding the rotor, said motor rotor and stator being confined in a hermetically sealed casing having a refrigerant inlet connected to the purging unit and an outlet connected to the evaporator and said motor rotor being provided with a coaxial passage communicating with said casing inlet while both said rotor and stator have therein alineable conduits radiating from said passage and connecting the latter with said casing outlet.

(To Be Continued)

Servicing Automobile Air Conditioners

(Vol. 4 — 1959 Models)

BY C. DALE MERICLE

Like the preceding three volumes in this series (which are available in handy manual form), these articles are intended for the *experienced* refrigeration mechanic, not the novice, and are designed to assist in emergency service.

Detailed step-by-step instructions on adjustment and replacement procedures are purposely omitted, partly to discourage the "do-it-yourself" clan and partly because major repair jobs for the most part will be performed by authorized service agencies of the manufacturers.

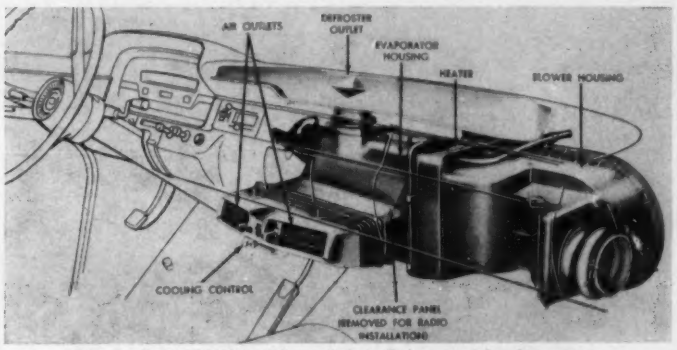


FIG. 1—Ford 1959 SelectAire unit is built into card heating system.

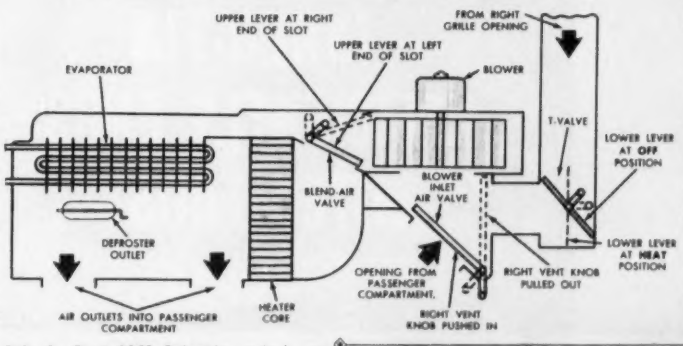


FIG. 2—Ford 1959 PolarAire unit is suspended beneath dash.

• • •

FORD (1)

Ford Div.
Ford Motor Co.
Dearborn, Mich.

Two units are offered by Ford for its 1959 cars: the SelectAire and PolarAire.

The SelectAire (Fig. 1) is incorporated in the car heating system, using the same blower and essentially the same air distribution system. The PolarAire unit (Fig. 2) is entirely separate from the heating system, and is, in fact, a "hang-on" type unit.

Both SelectAire and PolarAire employ the same compressor and condenser arrangement and the same principle of controlling temperature: thermostatic cycling of a magnetic clutch driving the compressor.

Refrigerant-12 is employed in both systems.

Compressor

Mounted on the car engine, the compressor is driven through a magnetic clutch.

Service valves are provided on the compressor.

Condenser

Condenser is mounted in front of the car radiator.

A combination receiver and dehydrator is mounted beside the condenser.

A sight glass is provided, being located in the liquid line along the left fender apron.

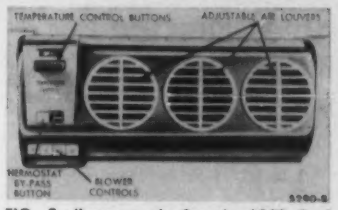


FIG. 3 diagrams air flow in 1959 Ford SelectAire system.

Evaporator Assembly

SelectAire evaporator is part of the heating system, as shown in Figs. 1 and 3. Air is discharged through two adjustable outlets just below the dash panel. Same blower used for heating is used for air conditioning.

PolarAire evaporator assembly is suspended beneath the dash. It houses the evaporator coil, thermostatic expansion valve, blower, air outlets, and controls. Three air outlets on front of case are adjustable. There is also an air outlet on each end of the case.

(To Be Continued)

QM To Require Thaw Indicators

WASHINGTON, D. C. — The Quartermaster Corps will require that thaw indicators be packed with all pre-cooked frozen meals for use by Air Force personnel, according to the National Association of Refrigerated Warehouses.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
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AIR CONDITIONING, HEATING & REFRIGERATION NEWS
450 W. Fort St. Detroit 26, Michigan

Steel Shortage--

(Concluded from Page 1, Col. 4)

steel strike ended soon. The company is currently using up its backlog, he pointed out.

Gibson Refrigerator Co. says it has built a hedge against production losses by purchasing conversion steel at high premium prices, according to C. J. Gibson, Jr., president.

He said these purchases should carry the company through the first quarter of 1960. The move was made "to keep deliveries rolling on an unprecedented order program" for 1960 products.

Even if the strike were settled immediately, officials of Kelvinator Div., American Motors Corp., would still be apprehensive about the next four to five months because of belligerant attitudes in the steel industry which threaten output, according to Bernard Chapman, executive vice president and general manager of the appliance division.

Chapman said Kelvinator has enough steel to operate until Dec. 1. Issuance of an injunction sending the steel workers back to the mills for 80 days would help a little, he indicated.

But, Chapman emphasized, "Of the 80-day period, 30 will be required by the mills for 'get-ready' time and not much can be done in the 50 that follow."

National Association of Plumbing Contractors reports that shortages of steel boilers, water heaters, nails, and structural steel has shut down many jobs across the country. Shortages of steel pipe are becoming more acute, according to Irvin L. Rechkemmer, NAPC president.

Inventories at steel service centers have reached the critical stage, reports Robert G. Welch, executive vice president of the American Steel Warehouse Association.

Inventories of flat rolled products have been virtually wiped out, he said. There are also severe item shortages of structurals, hot rolled carbon bars, and alloy bars.

Seymour Waldman, president of Rolled Steel Corp., predicts that the shortage in galvanized steel will probably continue to exist for a year after the strike is settled.

Mill, warehouse, and manufacturer inventories of galvanized are completely depleted, he said.

Midland-Ross--

(Concluded from Page 1, Col. 5)

ducer of automobile frames and power brakes and of engineered atmosphere control equipment for the textile, plastics, paper, rubber, and metal working industries.

Surface Combustion is a diversified company with a well known name in the engineering and production of industrial heating and heat treating equipment for the steel and durable goods industries, "Kathabar" dehumidification equipment, the Janitrol line of heating and air conditioning products, and Janitrol aircraft equipment. It has plants in Toledo and Columbus, Ohio; Tulsa, Okla.; and Toronto, Ont., Can.

Unitary Sales--

(Concluded from Page 1, Col. 4)

are heat pumps, with self-contained up 91% and other than self-contained up 119%, split systems up 67%, and year-round air conditioners (except heat pumps) up 33%.

All told there were 160,791 unitary air conditioners shipped in the first six months of 1959, up 39% over the first six months of 1959, up 39% over the first six months of 1958.

Listed in tabulation on the right are the summary figures by size for the first six months. The Nov. 2 NEWS will publish the complete ARI report on sales by size of all types of unitary air conditioners for the first six months, as well as a summary of second quarter sales. The Nov. 2 issue will also list the names of all air conditioning manufacturers furnishing data.

ARI Statistics on Unitary Air Conditioner Shipments for First Half of 1959

JANUARY-JUNE, 1959 (6 months)
YEAR-TO-DATE

SIZE	— By Condenser Type — Air or Evaporatively Cooled	Water Cooled	Total Units	% Change from 1958
Under 18,000 B.t.u./hr.	24,834	....	25,317	+ 38
18,000-26,999 B.t.u./hr.		483		
27,000-32,999 B.t.u./hr.	12,432	46	12,478	+ 16
33,000-41,999 B.t.u./hr.	48,584	7,619	56,203	+ 49
42,000-53,999 B.t.u./hr.	15,238	187	15,425	+106
54,000-64,999 B.t.u./hr.	17,472	9,173	26,645	+ 33
65,000-96,999 B.t.u./hr.	7,183	4,877	12,060	+ 17
97,000-134,999 B.t.u./hr.	3,243	3,856	7,099	+ 16
135,000-184,999 B.t.u./hr.	412	2,262	2,674	+ 3
185,000-249,999 B.t.u./hr.	172	1,122	1,294	— 15
250,000-319,999 B.t.u./hr.	63	862	925	+ 35
320,000-379,999 B.t.u./hr.	55	483	538	+ 87
380,000 B.t.u./hr. & over	39	94	133	+ 48
TOTAL	129,727	31,064	160,791	+ 39

This condensed summary by size includes shipments of:

1. Air Conditioners (except window and wall types) With or without condensers and refrigeration chassis.
2. Year-Round Air Conditioners—With or without chassis.
3. Heat Pump (except room air conditioners). Self-contained and other than self-contained.
4. Split Systems—Air Conditioning Condensing Units only. It does not include shipments of air conditioning coils with or without blowers.

EXPORT SHIPMENTS—The total figure includes export shipments of 3,395 units for January-June, 1959.

Perfection--

(Concluded from Page 1, Col. 2)

president in charge of sales and advertising.

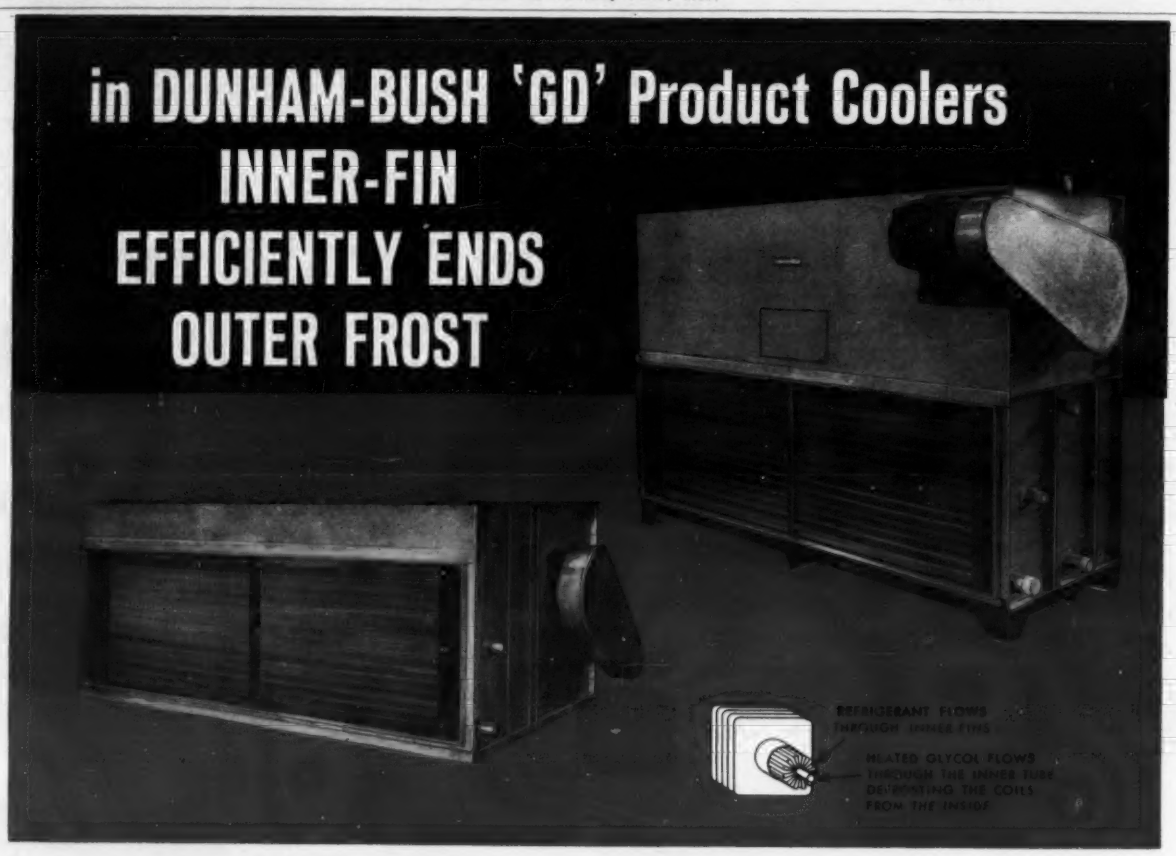
In 1960, Perfection will market 2, 3, 4, and 5-hp. remote air conditioners, and 2, 3, and 5-hp. self-contained air conditioners. The new heat pump line will contain 2, 3, 4, and 5-hp. self-contained heat pumps as well as the all new Perfection "Tri-Pak" remote heat pump line.

The new line represents the broadest Perfection has ever offered its distributor organization, which has tripled in size in two years, Millsom said.

C. L. Lancaster Dies

BIRMINGHAM, Ala. — Clyde L. Lancaster, 64, pioneer in the commercial refrigeration business here and in the southeast, died recently after a short illness.

in DUNHAM-BUSH 'GD' Product Coolers
INNER-FIN
EFFICIENTLY ENDS
OUTER FROST



...and provides entirely separate defrosting circuits

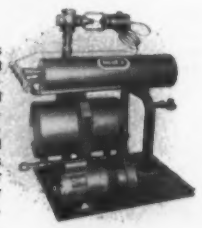
Dunham-Bush Glycol Defrost coolers, available in floor-mounted and ceiling-suspended models, feature famed Inner-Fin high efficiency coils, one of the most beneficial advances in heat transfer.

Patented Inner-Fin construction rapidly distributes heat to points of critical frost formation, resulting in faster, more efficient defrosting with minimal rise of room temperature. Such performance is especially advantageous in warehouses holding perishables, meat-packing plants, and ice cream storage areas.

Additionally—as the 'GD' demonstrates—Inner-Fin enables more compact design and provides an entirely separate defrosting circuit . . . advantages possible with *no other equipment intended for similar application*. The separate circuit contains the glycol completely, preventing dilution of the defrosting medium and eliminating costly necessities of distilling and regular replenishment. Also prevents air contamination by the defrosting medium. (For Direct Expansion Ammonia unit, specify models 'GDA'.)

Totally, what the 'GD' offers you is an integrated combination of features engineered to maximize efficiency. Get more information on the 'GD' and other heavy-duty coolers in the complete Dunham-Bush line. Contact the Dunham-Bush Sales Engineer near you.

GLYCOL HEATER KITS
The defrost circuit comprises a glycol pump, shell type heat exchanger, timer, and magnetic contactor—all supplied as an assembled kit. To minimize glycol heat losses, station kits outside refrigerated area, as close to 'GD' units as possible. Kits available for use with electrical (GEH) or steam heating (GSC) of glycol.



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